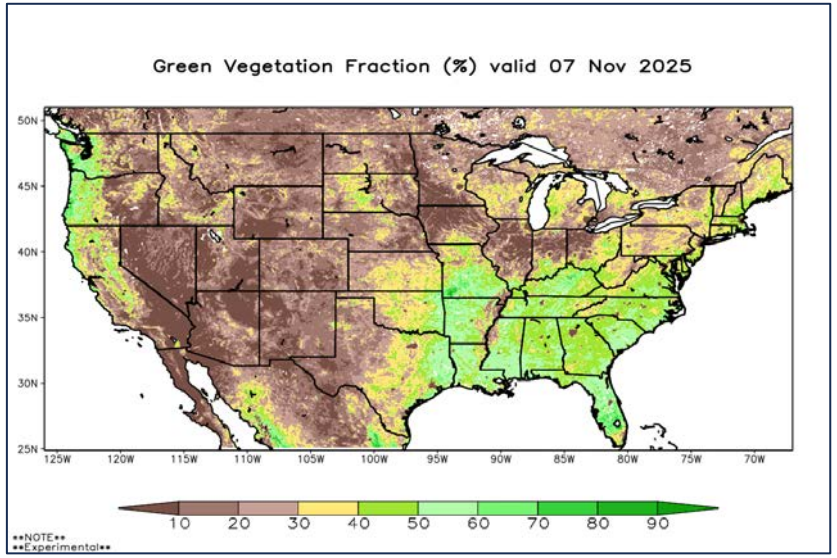
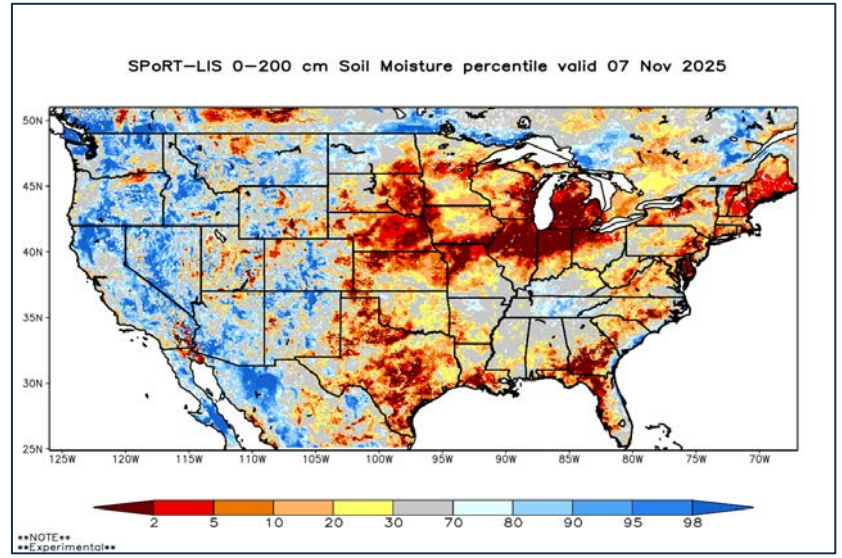
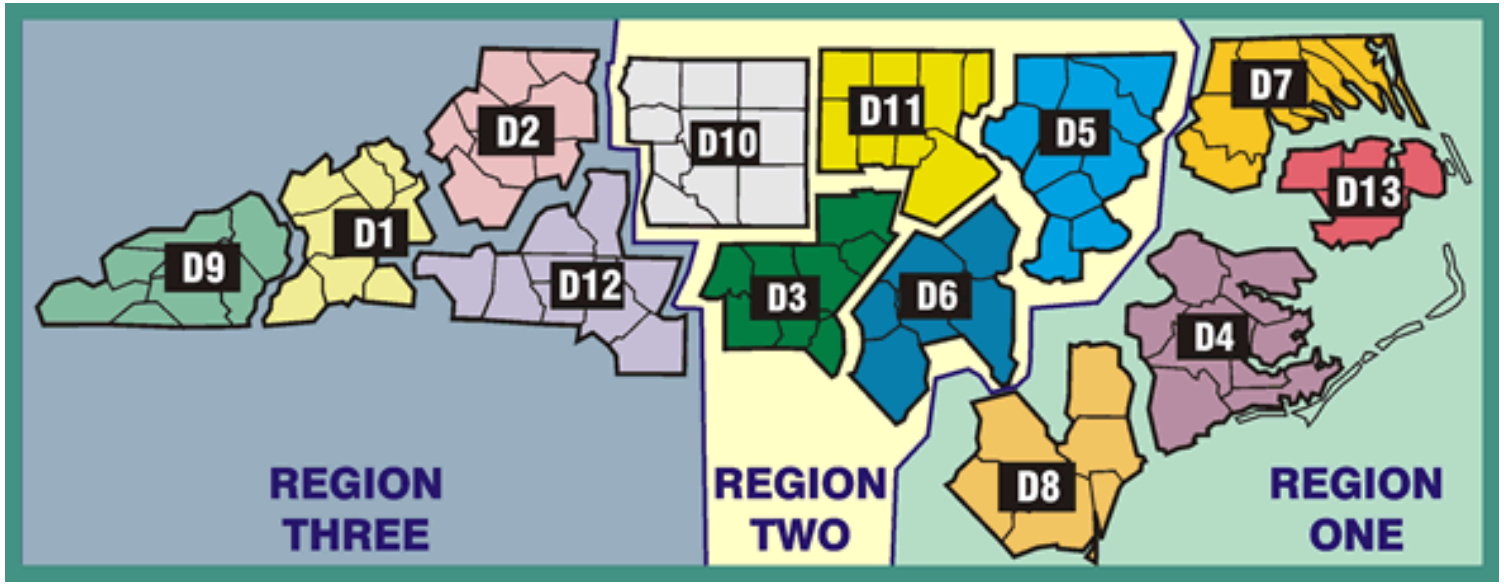
November - 2025

Monthly Fire Danger Assessment NCFS – All Regions







Date: November 7, 2025

Created by: Jamie Dunbar
Fire Environment Staff Forester
NC Forest Service

Statewide Wildfire Context

January: 10-yr avg is 309 fires for 530 acres
February: 10-yr avg is 618 fires for 1,598 acres
March: 10-yr avg is 891 fires for 4,784 acres
April: 10-yr avg is 629 fires for 6,546 acres
May: 10-yr avg is 293 fires for 1,161 acres
June: 10-yr avg is 243 fires for 2,424 acres
July: 10-yr avg is 193 fires for 645 acres
August: 10-yr avg is 138 fires for 395 acres
September: 10-yr avg is 173 fires for 377 acres
October: 10-yr avg is 236 fires for 1,962 acres
***November: 10-yr avg is 462 fires for 6,035 acres**
December: 10-yr avg is 305 fires for 580 acres

September: 356 incidents for 741 acres
October: 402 incidents for 450 acres
7-Day Activity: 67 incidents for 81 acres

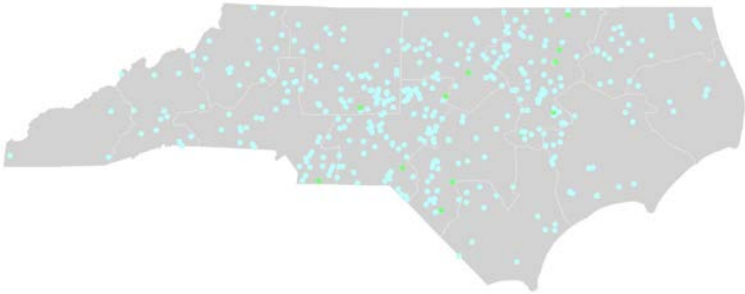
All wildfire activity data is preliminary
Does not include additional federal wildfires/acres
2015-2024 CY Average

**Largest incidents by discovery date, Last 7-Days:
from fiResponse & preliminary reporting only

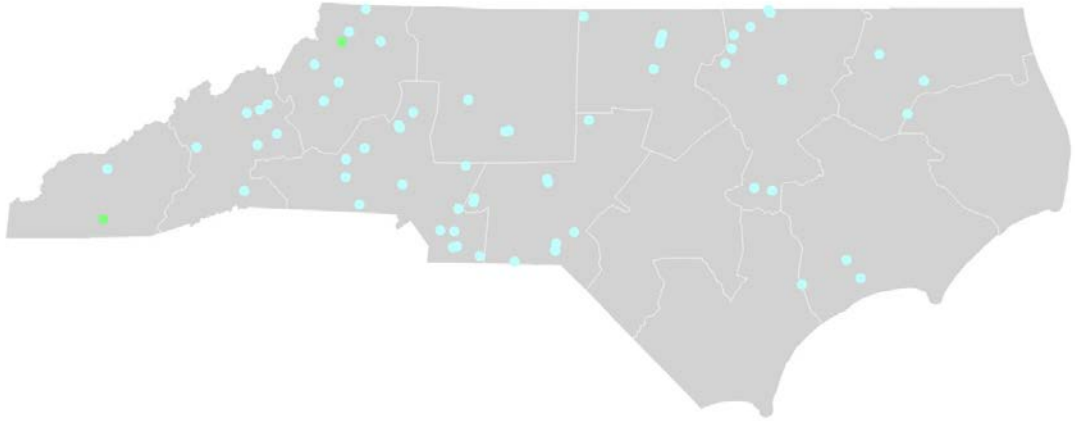
Incident Name	Discovery Date	Region	District	County	Acres
ASU	11/6/2025	Region 3	District 2	Ashe County	35.00
Rich Road	11/6/2025	Region 3	District 9	Macon County	12.00
Shulls Mill	11/6/2025	Region 3	District 2	Watauga County	5.80
Cut Through 2	11/2/2025	Region 2	District 3	Anson County	4.79
Pine Cone Lane	11/4/2025	Region 3	District 1	Yancey County	4.00
Church Road Corn Field	10/31/2025	Region 1	District 7	Bertie County	2.50
Parkgrace Rd	11/5/2025	Region 3	District 12	Cleveland County	2.00
Thomas Store Rd	11/5/2025	Region 2	District 11	Person County	2.00
2 Pile	11/1/2025	Region 2	District 3	Chatham County	1.00
448 Harristown Road	11/2/2025	Region 2	District 5	Warren County	1.00

September 2025

October 2025

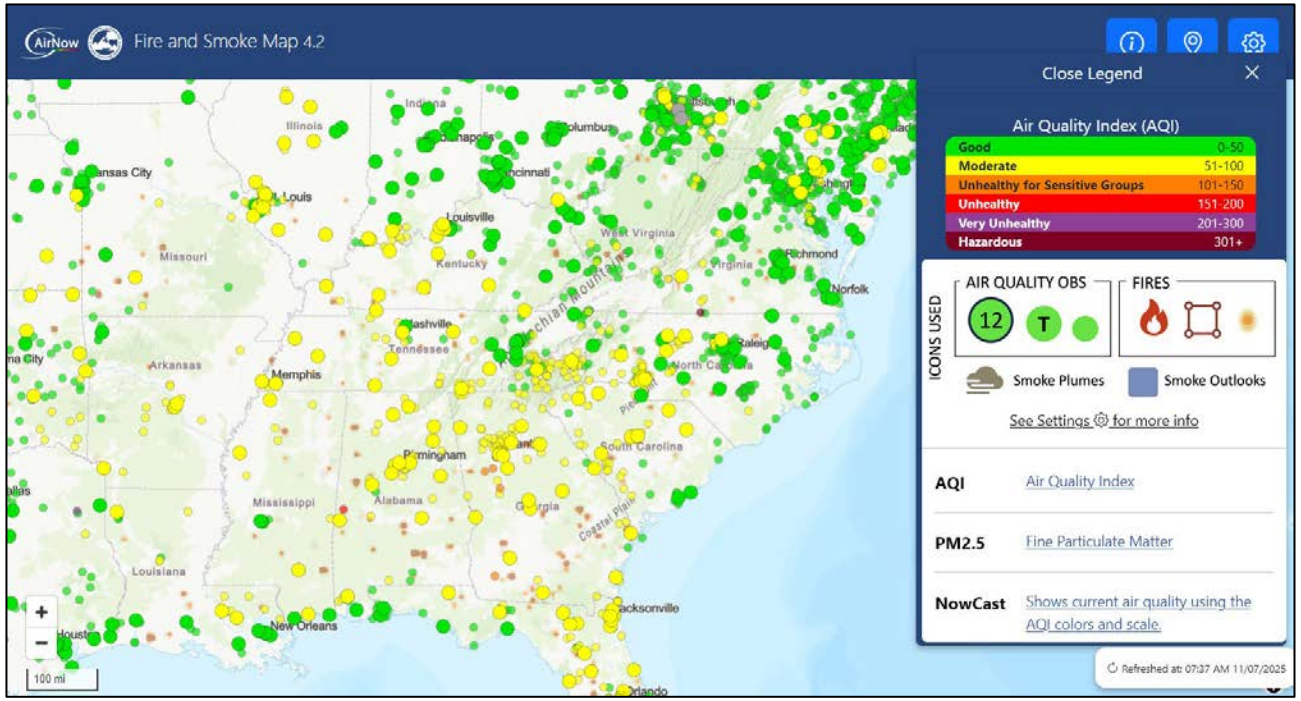


Last 7-Days (10/31 – 11/06)

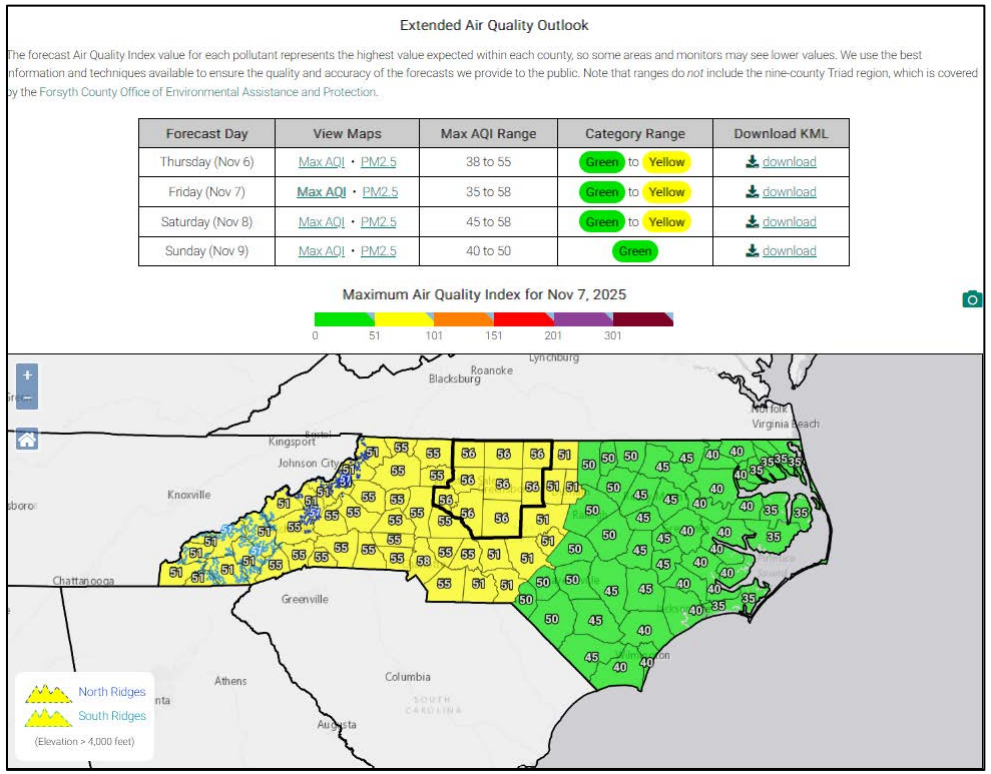


***Note: DOD & other entirely federal ownership wildfires not shown on fiResponse*

Air Quality Notes



https://fire.airnow.gov/#



This forecast was issued on **Thursday, November 6, 2025** at **2:47 pm**. This forecast is currently valid.

Today's Air Quality Conditions

Current daily averages are in low Code Yellow range across much of the state but averages should continue to fall through the rest of the day due to cleaner air moving in the wake of a cold front.

For a display of the most recent Air Quality Index (AQI) conditions throughout the day, visit the Ambient Information Reporter (AIR) tool.

General Forecast Discussion

A progressive weather pattern will continue on Friday as high pressure quickly escapes off of the coast. Winds will yet again shift out of the south which will result increasing fine particulates, especially across the western half of the state. Looking to our south, fine particulate values remain elevated as of Thursday afternoon and there are also numerous prescribed burns taking place, which also occurred on Wednesday. We can expect some of this to advect northward into our state on Friday, leading to Code Yellow daily averages in the Mountains and across the Piedmont.

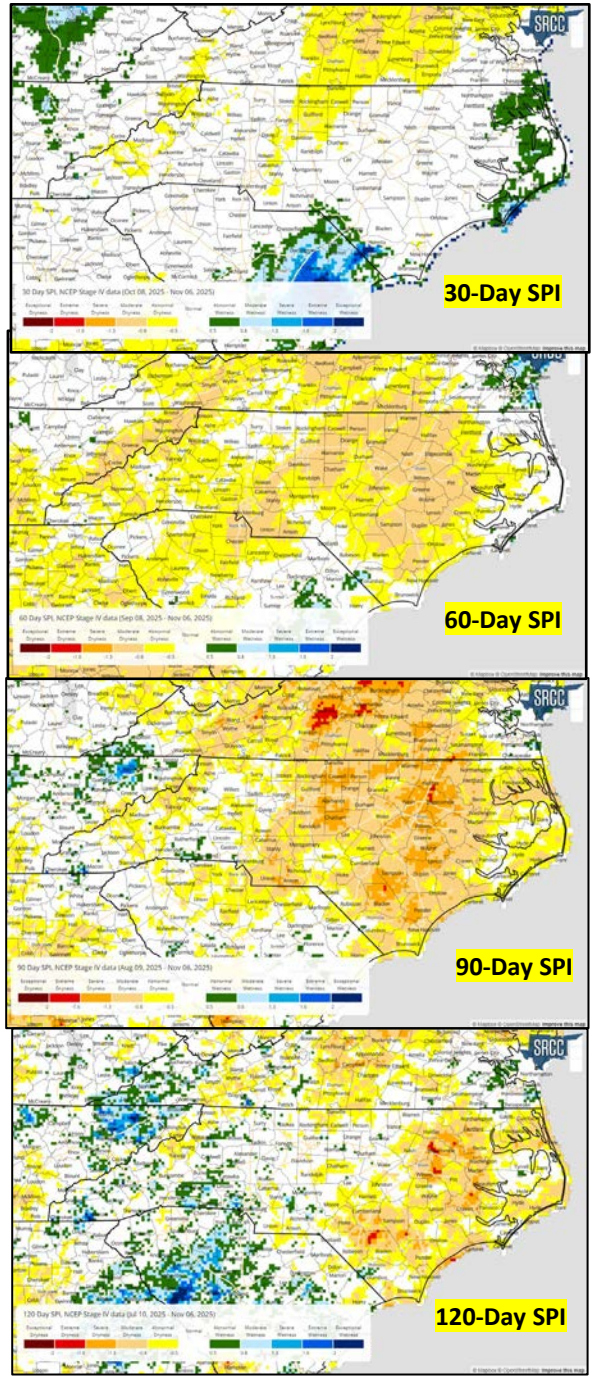
Outlook

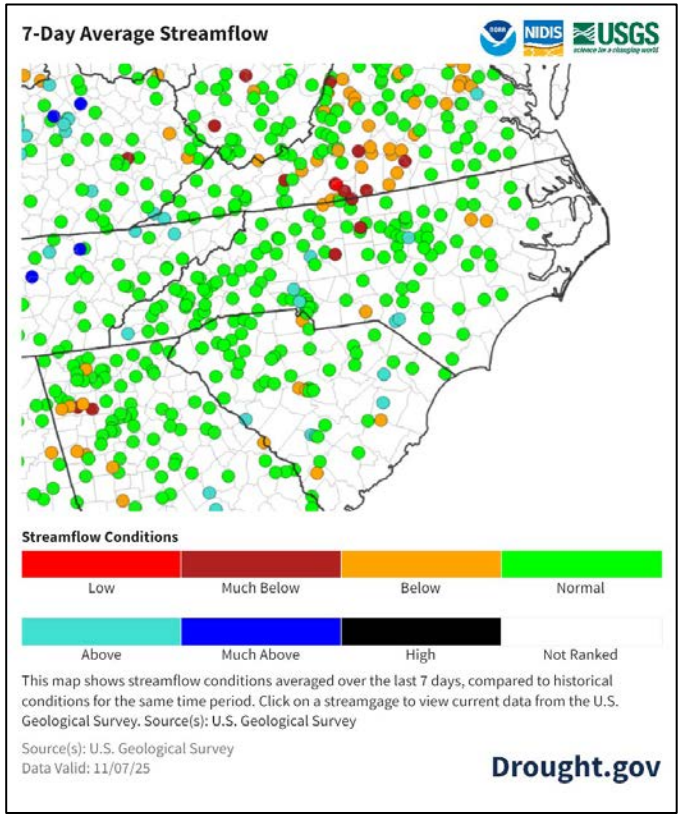
A weakening cold front will move into the state on Saturday but will wash out as it moves in. By Sunday, a much stronger cold front will begin moving through the state. Winds should remain out of the south/southwest on Saturday which will favor fine particulates remaining elevated in Code Yellow for averages. By Sunday, a cleaner maritime airmass will stream in ahead of the front and even cleaner air will begin to move into the state behind the front, lowering averages into Code Green range statewide.

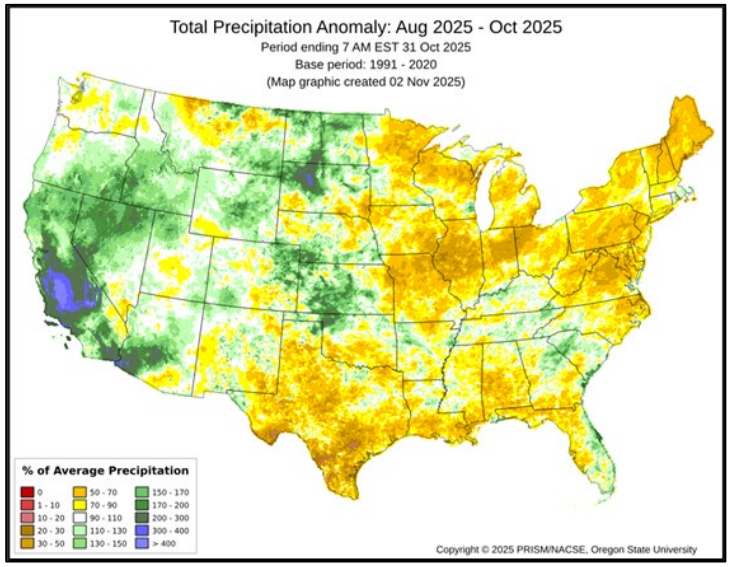
Author: *Jordan Root (jordan.root@deq.nc.gov) - NC Division of Air Quality*

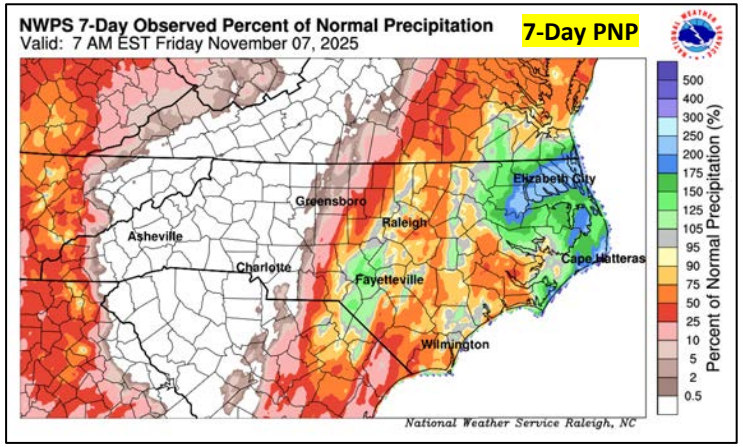
https://airquality.climate.ncsu.edu/discussion/?view=latest

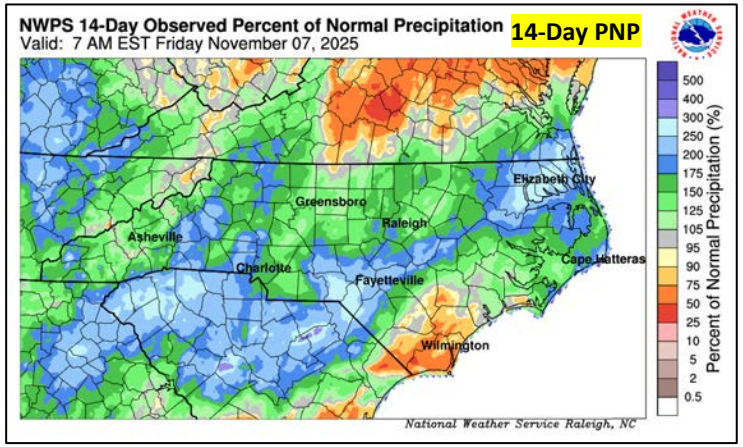
https://srcc.tamu.edu/water_portal/

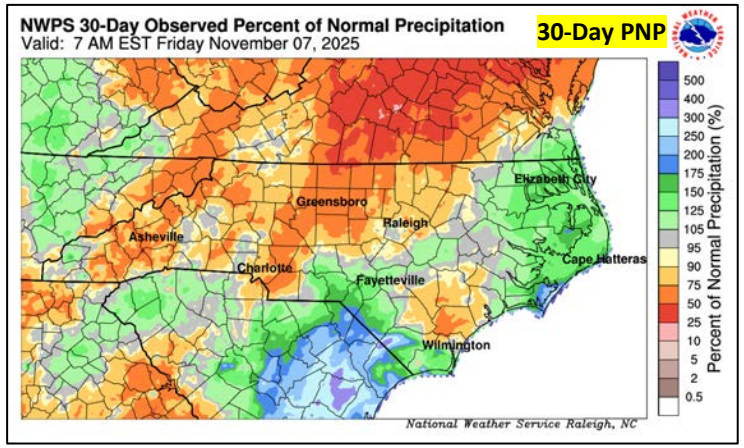


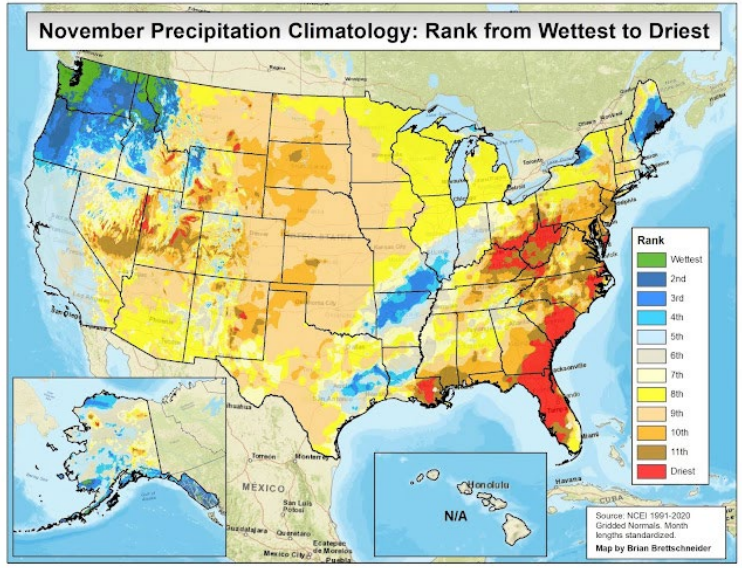


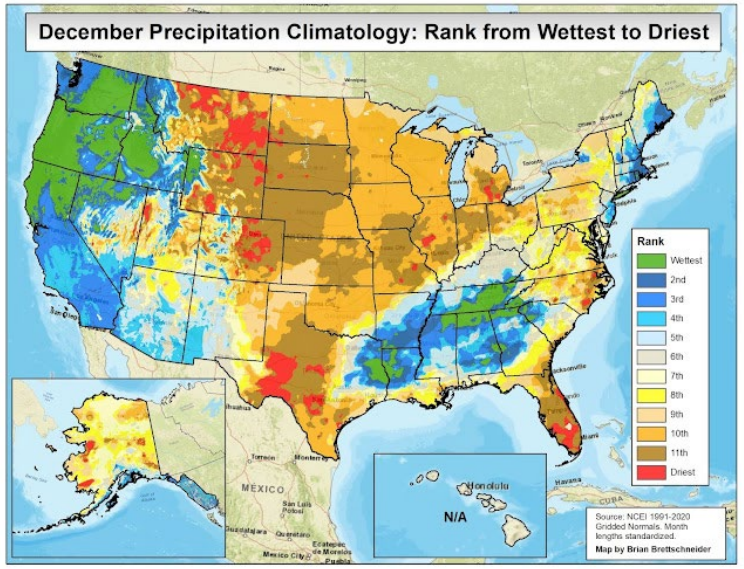


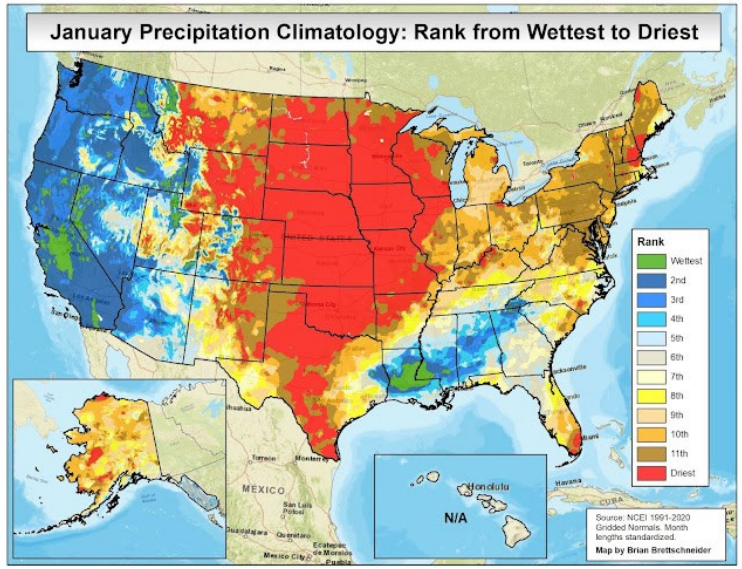


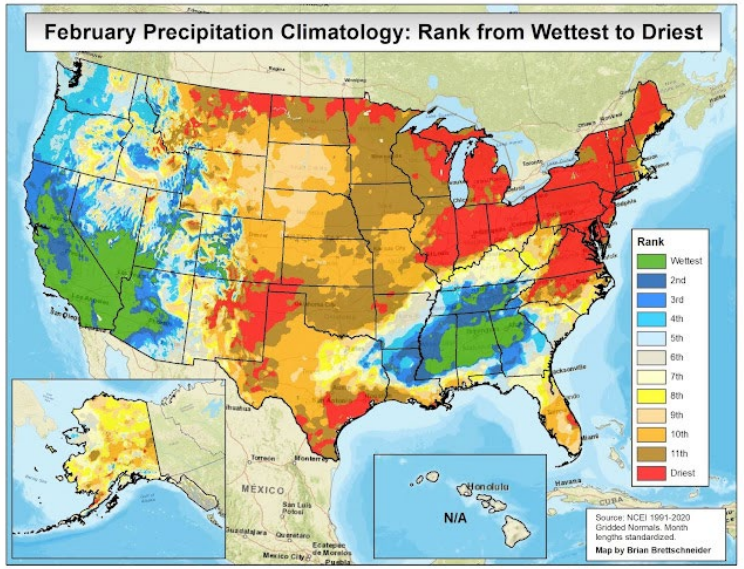












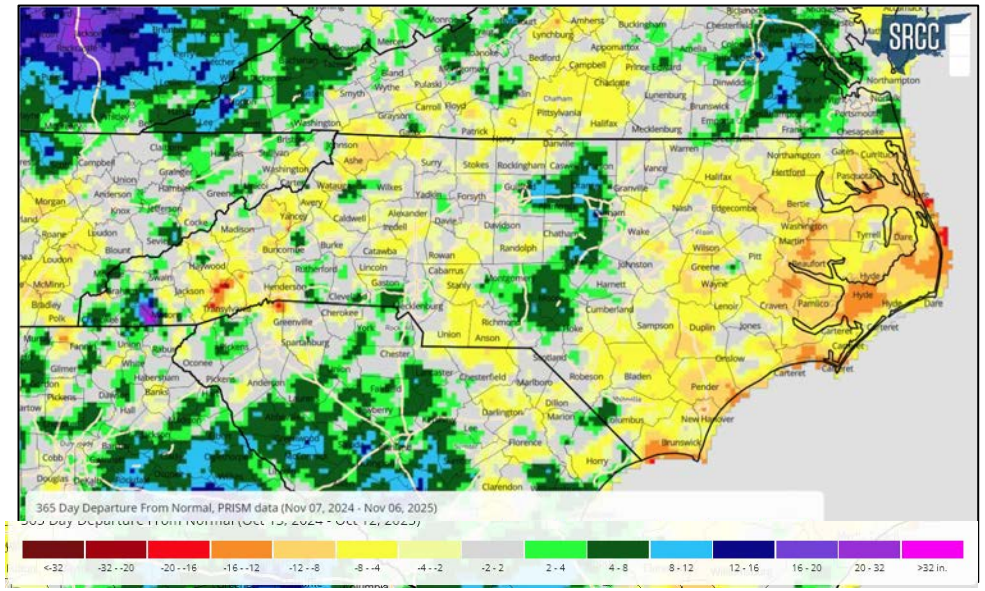
https://us-climate.blogspot.com/2021/06/wettest-months-of-year-1991-2020.html

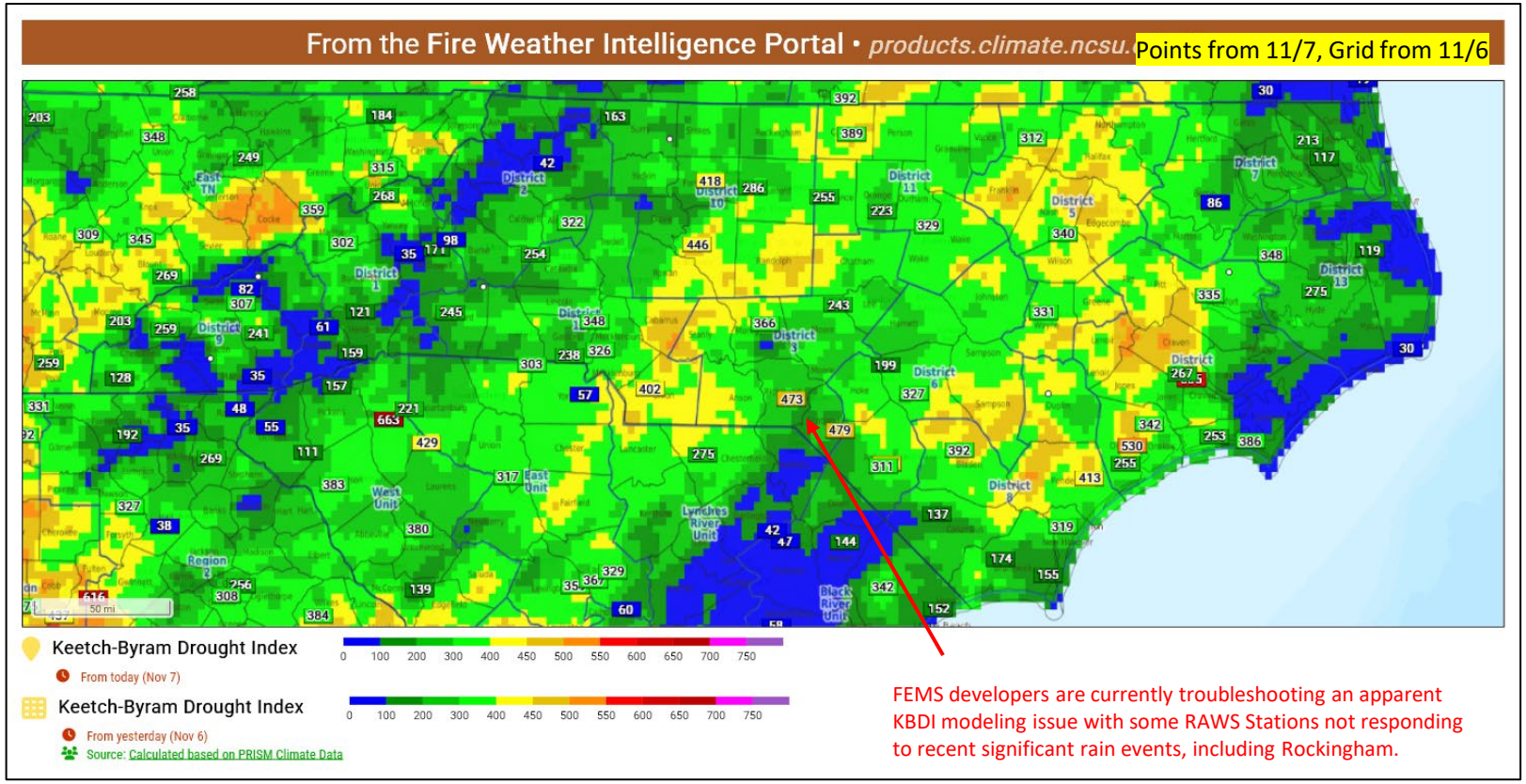
Rainfall Rankings by Month

(1991-2020 Climatology)

Note that September is generally the wettest month on average for much of NC, followed by October being the driest.

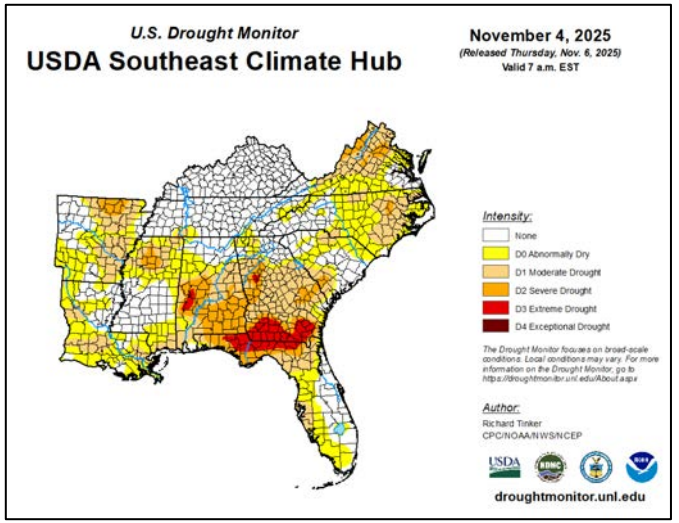
1-Yr Departure from Normal (in.)

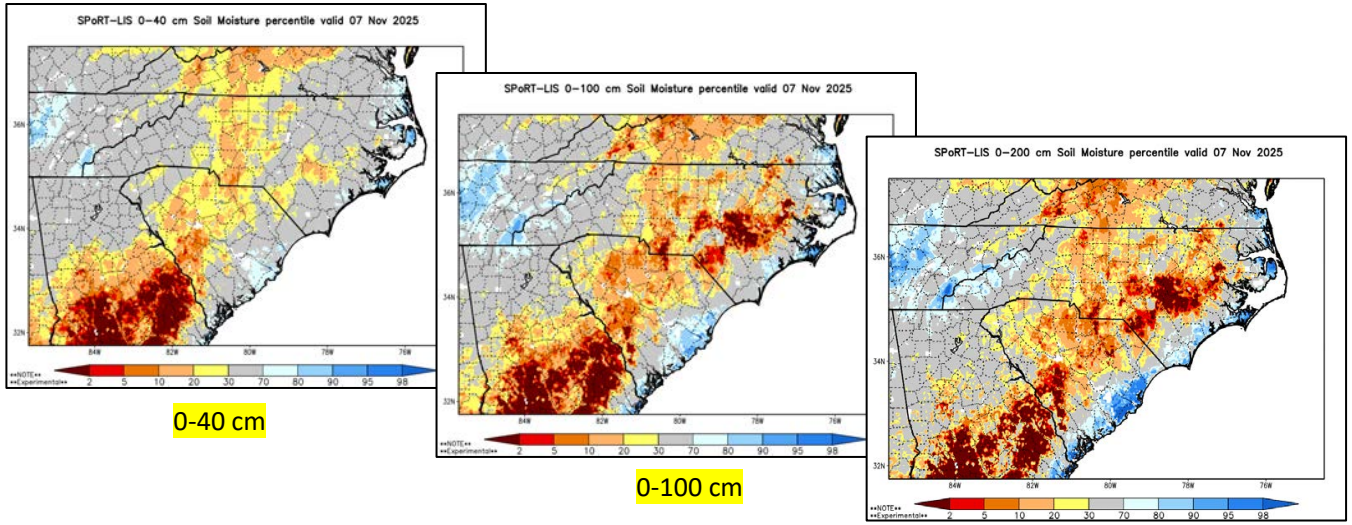




- KBDIs have decreased in many areas over the past month, however pockets of much drier conditions remain. KBDI daily increases are based upon maximum daily temperature.
- Intense surface fire can still occur even with low KBDI values in the dormant season.
- Note modeled 0-200 cm soil moisture percentile, representing the ~0-6 ft. soil profile across the landscape (bottom center).
- USDM Map comparison – 2016, 2024, 2025.

Current



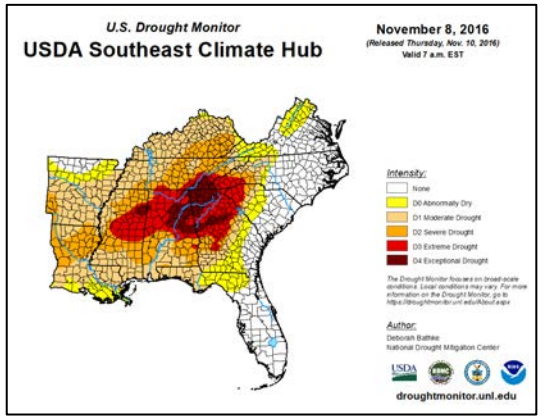


0-40 cm

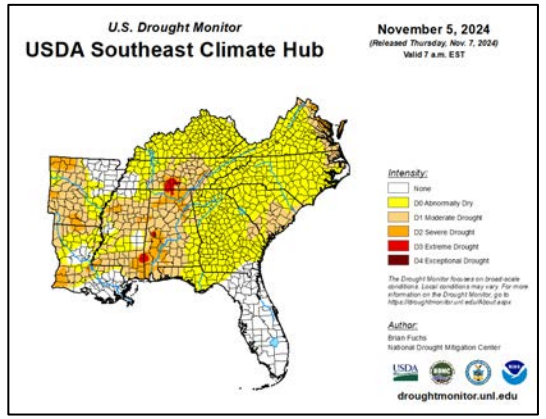
0-100 cm

0-200 cm

2016

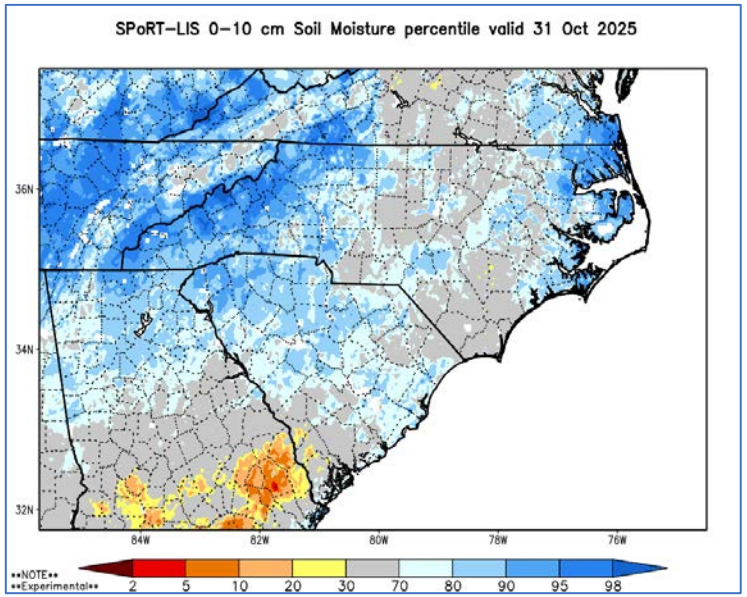


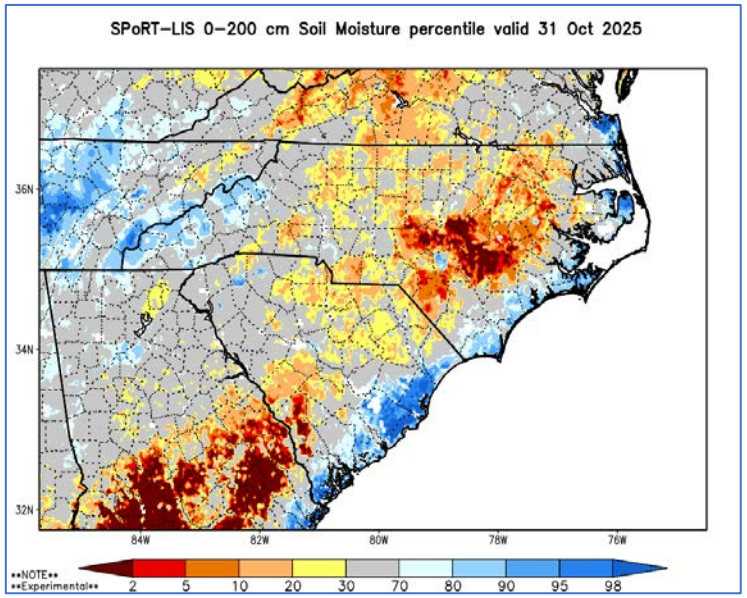
2024



SPoRT Modeled Soil Moisture Percentiles for ~4” and ~72” profile.

Friday 10/31/25



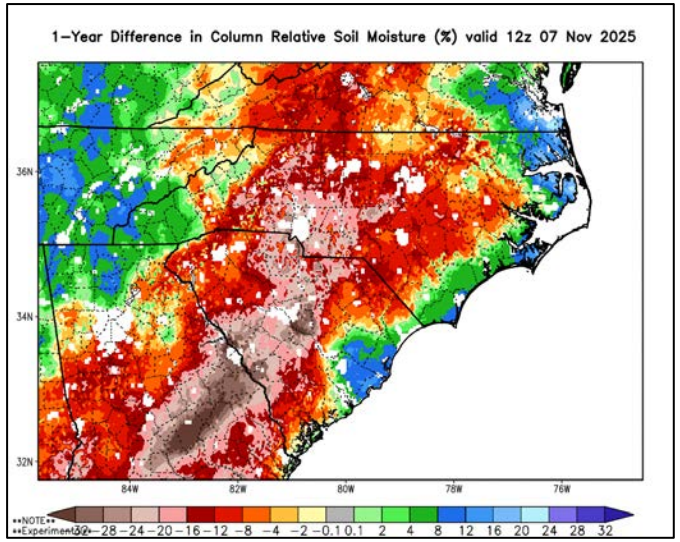


~ Last week Left, this week on Right.
Just a model.

Shallow soils beginning to return to near normal in areas that saw significant precip.

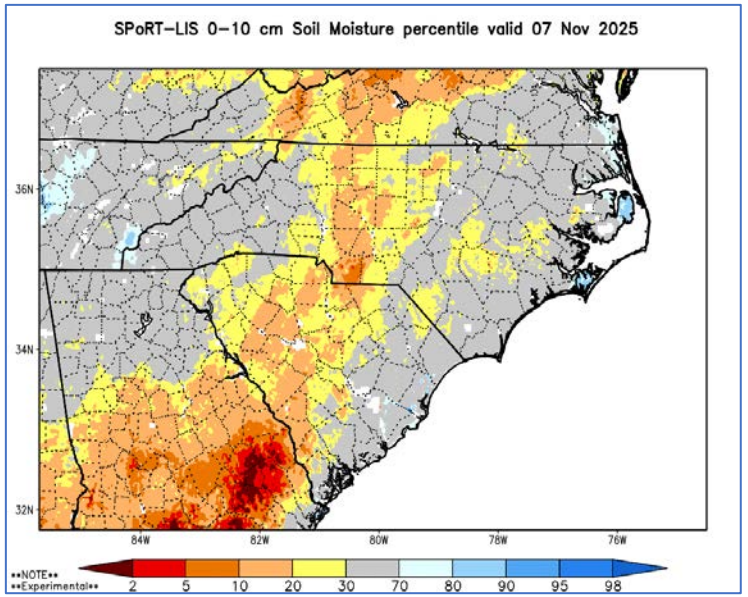
Models are still picking up on significant dryness in context of entire soil profile for portions of foothill/piedmont/coastal locations.

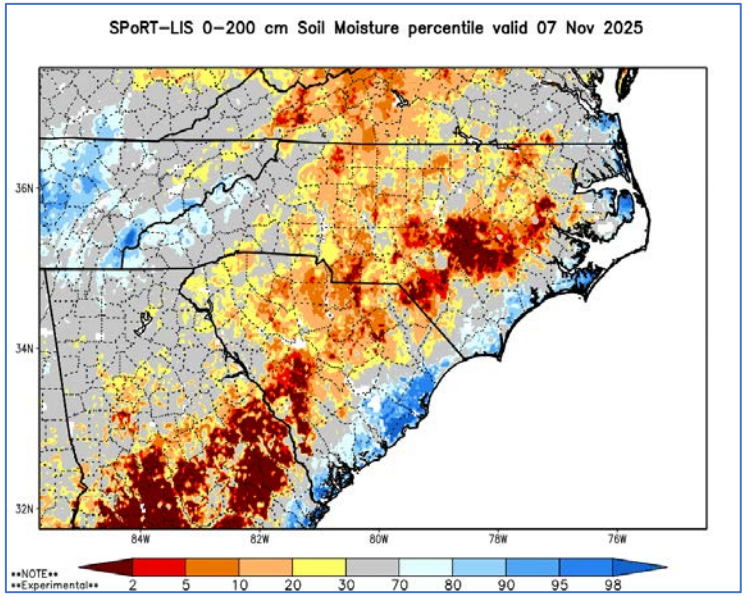
Note 1-year difference graphic below.



https://weather.ndc.nasa.gov/sport/case_studies/lis_NC.html

Friday 11/7/25





North Carolina Drought Update

Created By: North Carolina Drought Management Advisory Council www.ncdrought.org | NC CLIMATE OFFICE climate.ncsu.edu | NC STATE @NCSCO

For the assessment period ending **Nov. 4, 2025**

From the US Drought Monitor, with input from the NC DMAC

The Main Takeaway

With the full impact of last week's rain now apparent, we saw broad one-category improvements, although drought remains in parts of central and eastern NC.

This Week's Summary

Most of the state received more than two inches of rain over the past two weeks, with locally heavy totals of more than four inches in the southern Mountains and northern coast. That rain was welcome, but following a nearly two-month dry spell, its impacts were limited. In most areas, the thirsty ground quickly soaked in any moisture, and seasonal rainfall deficits remain sizable.

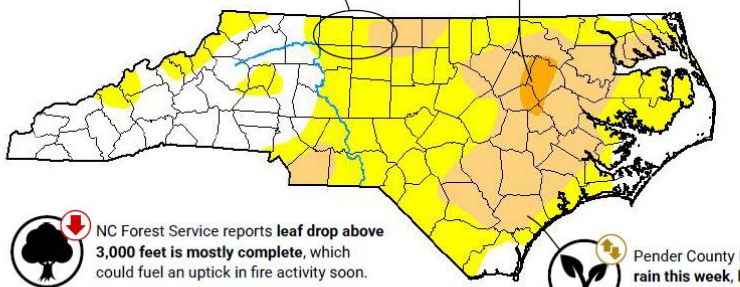
Next Week's Outlook

Several cold frontal passages will bring in cooler air – especially by next Monday – but limited moisture, with rainfall totals of a half inch or less expected statewide.

For your local drought status, visit **www.ncdrought.org**

Streamflow levels across the northern Piedmont saw a **brief uptick last week**, but **many are back below normal now**.

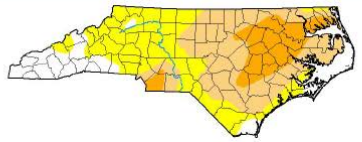
Rocky Mount saw 2.02 inches of rain over three days last week, but it remains **3.8 inches below normal** over the past three months.



NC Forest Service reports **leaf drop above 3,000 feet is mostly complete**, which could fuel an uptick in fire activity soon.

Pender County Extension notes **light rain this week**, but **more is needed for the small grains being planted**.

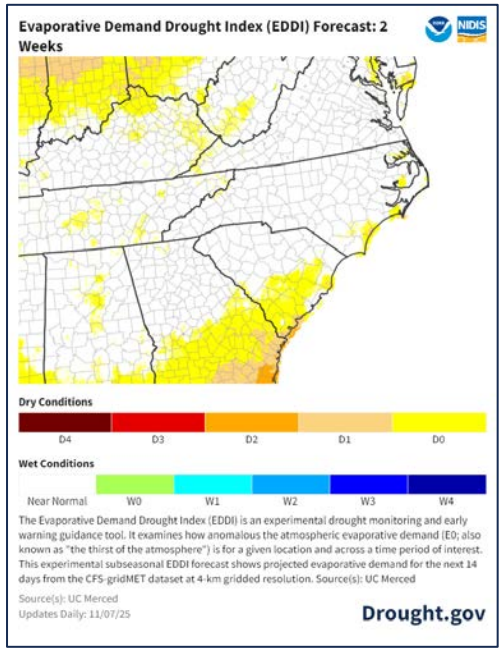
Last Week's Drought Status

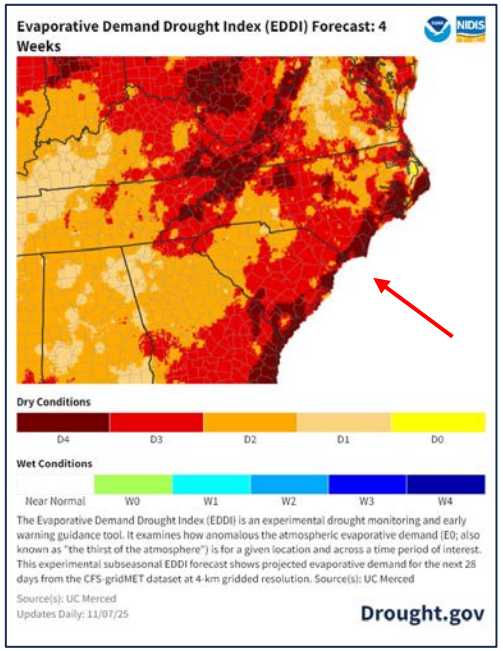


Statewide Coverage by Category

Category	Current Coverage	Change Since Last Week
D0: Abnormally Dry	45.31%	+10.59%
D1: Moderate Drought	26.93%	-9.35%
D2: Severe Drought	1.59%	-14.31%
D3: Extreme Drought	0.00%	0.00%
D4: Exceptional Drought	0.00%	0.00%

https://www.drought.gov/data-maps-tools/evaporative-demand-drought-index-eddi-subseasonal-forecasts



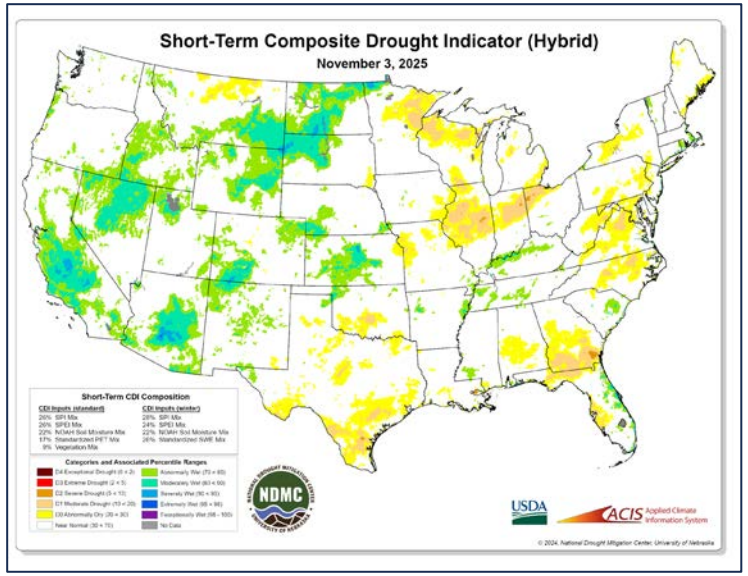


EDDI & Drought

EDDI Maps - The EDDI maps at the top right illustrate modeled evaporative demand at the two-week and four-week avg level. They are trending drier than normal for much of NC later in the 4-week time scale. Warmth, lack of precip and dry air accelerates this index.

US Drought Monitor – USDM map released last week, note map has reduced the extent of D-1 and D-2 for now. Models continue to favor drought development/intensification for much of the SE. An important considering moving into the Spring of 2026.

Short-Term Composite Drought Indicator Map & Seasonal Drought Outlook - shown at right. See detailed state/regional discussions here. Conditions are favoring drought to extend and continue for much of the Southeast. *All of this is dependent upon any future tropical storm tracks and seasonal variability we see moving through Fall/Winter.*



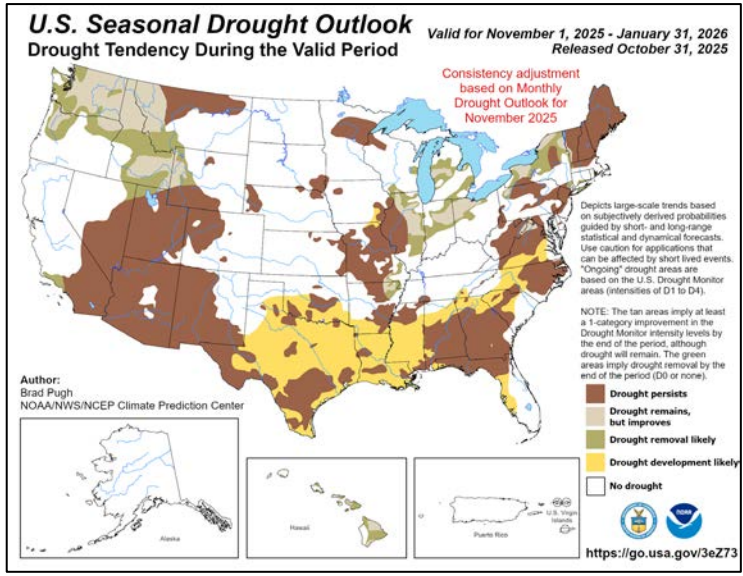
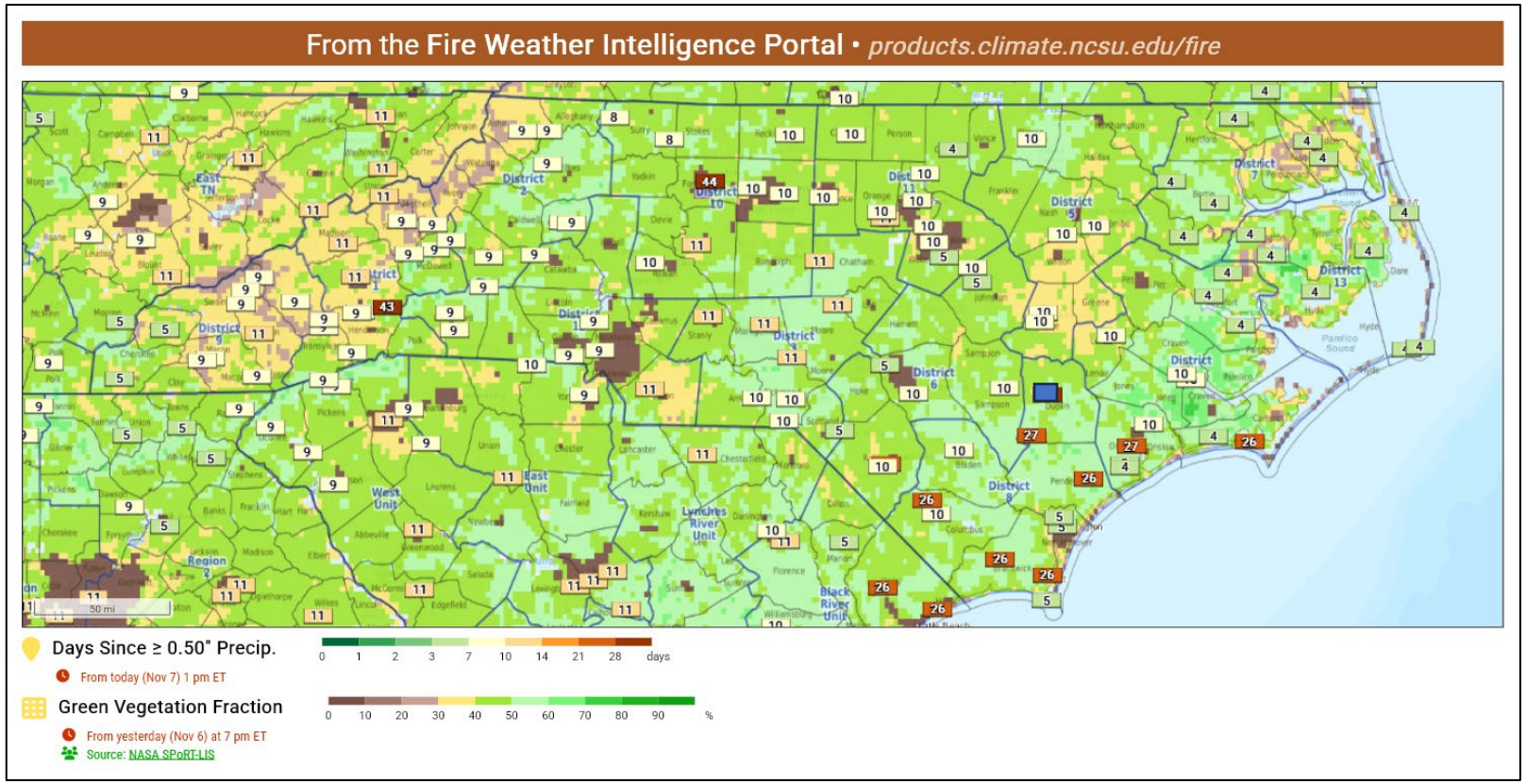
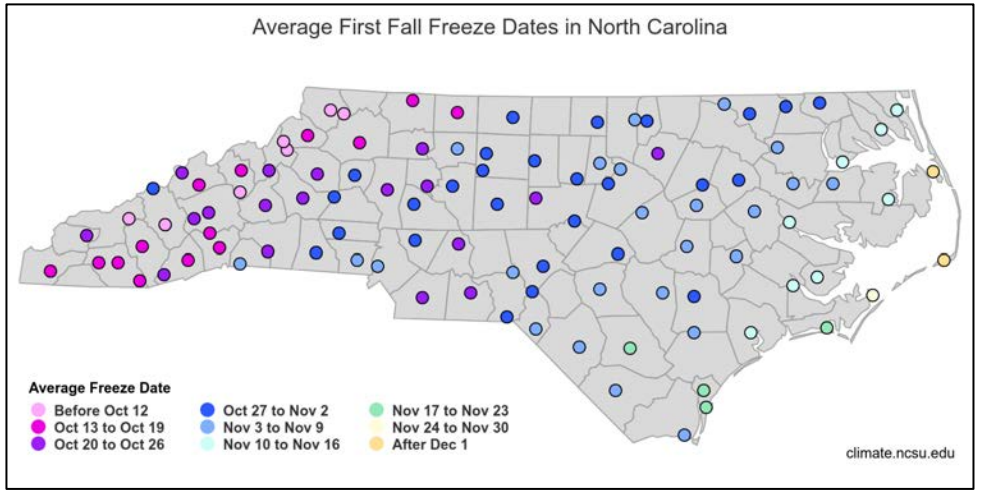
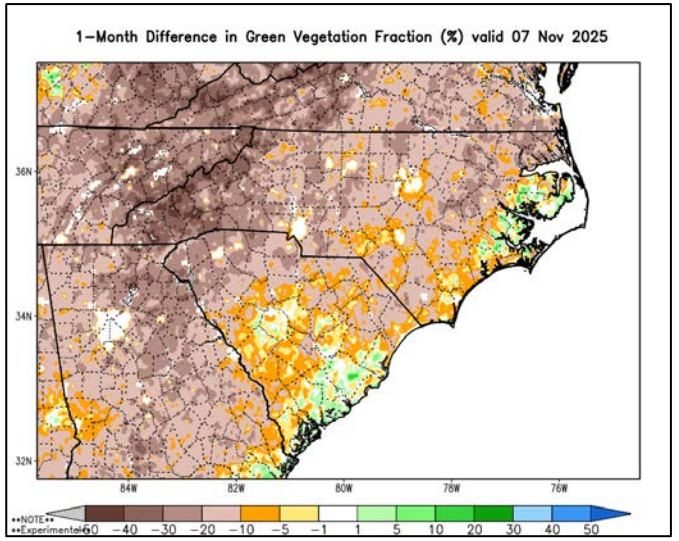
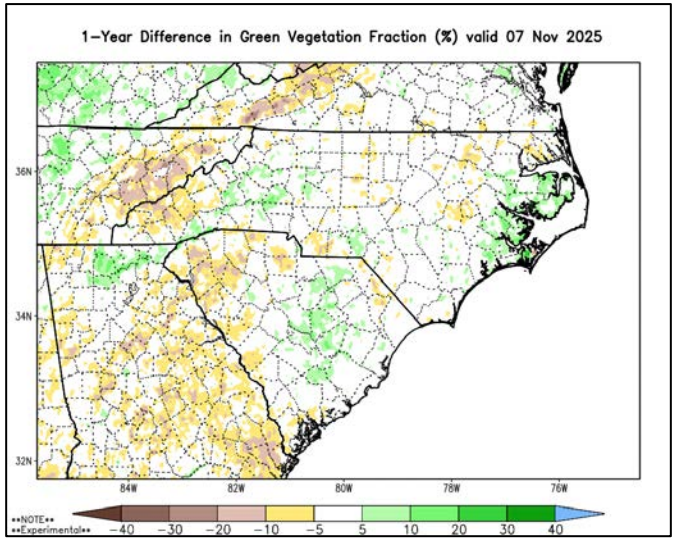


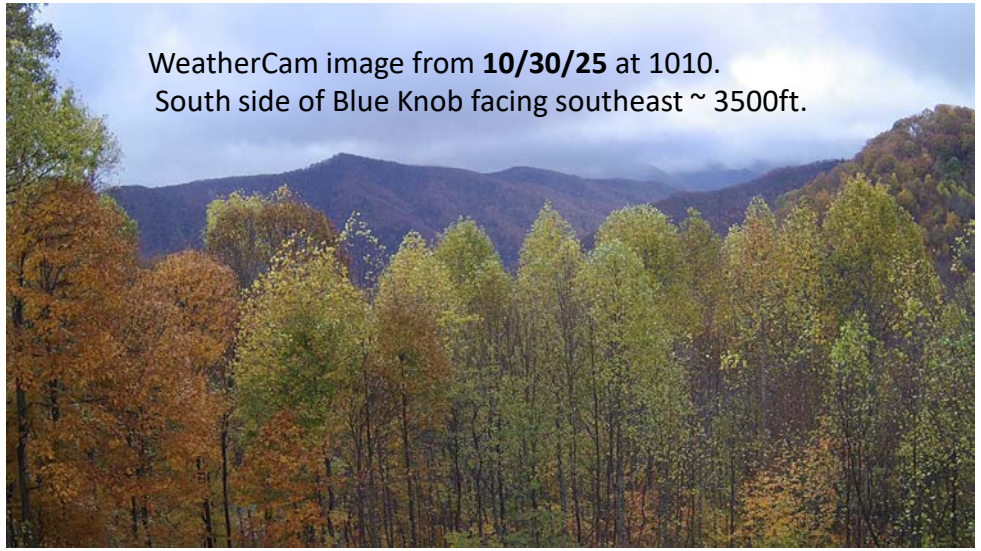
Image from 11/7/25, SW Buncombe Co ~ 3,000ft (R3 Staff)











Generalizations of Color Change & Leaf Drop Across the State

Leaf drop is dependent upon elevation, aspect, species, drought stress, and weather events (precip/cold/wind) interacting in seasonal context.

- Mountains: ≥ 3,000ft elv seeing 80-90% leaf off
  < 3,000ft elv seeing 50-60% leaf off

- West Piedmont: color has reached peak in many areas, leaf drop starting to occur, generally less than 10-20%. Canopy generally still intact, aiding in wind interception and shading.

- East Piedmont & Coastal Plain: Drought stress has caused early drop on sensitive species, otherwise ≤10% leaf drop. Canopy mostly intact, color change accelerating.

The arctic air mass & associated winds coming early next week will likely accelerate dormancy and help intensify leaf drop across the state.

Reminder that the general decrease in live fuel moisture post first significant freeze, loss of shading, wind interception and new abundance of fluffy hardwood litter will likely lead to a bump in IA – especially debris burn escapes.

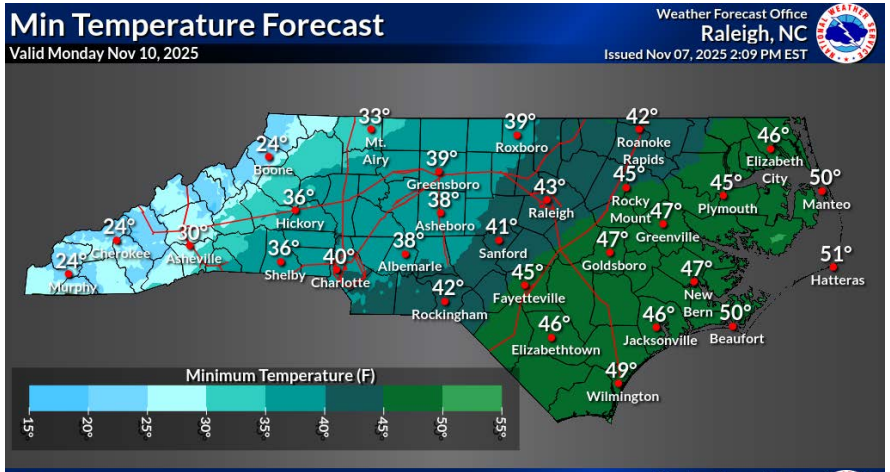
Colder air temperatures can initially moderate impacts of very dry air and resulting dry fine fuels, however warming conditions that align with already critically dry fine & medium sized dead fuels can lead to extended burning periods and greatly enhance difficulty of control.

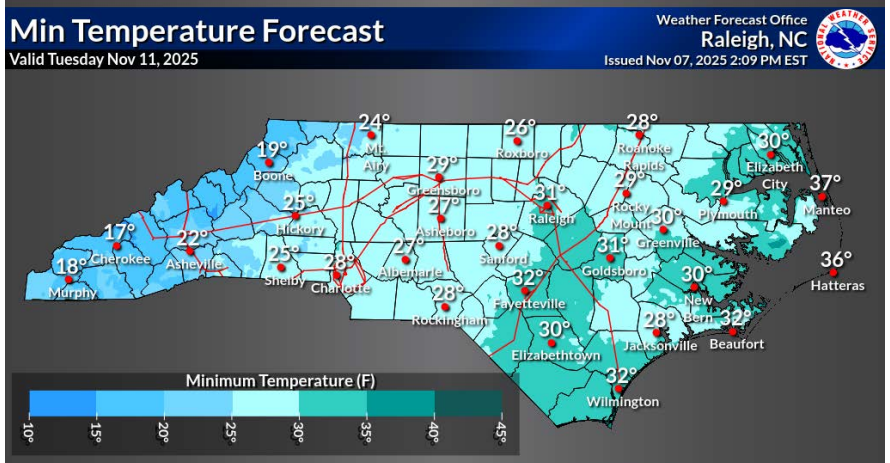
Courtesy of: https://nchighpeaks.org/weather/pensacola.php

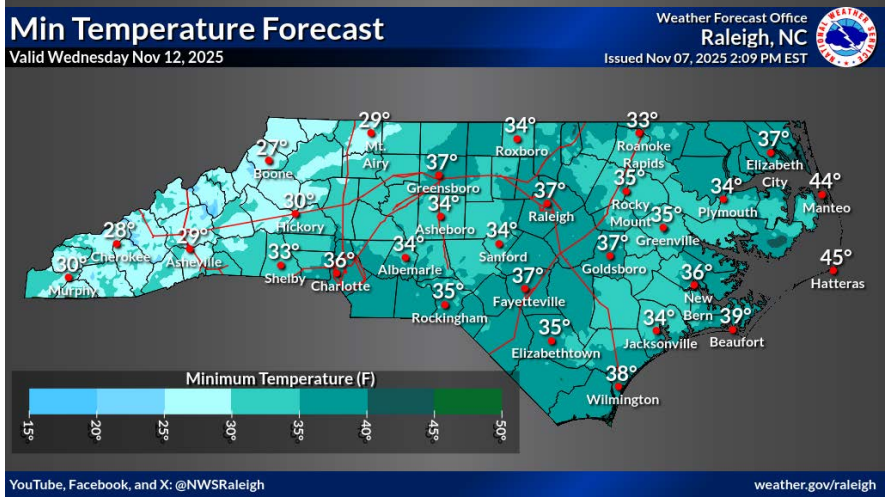
Next Week's Cold Temperatures

From SA Monthly Outlook Briefing on 11/7/25

First widespread/prolonged cold & freeze event coming. See NWS Raleigh's Min Temp Forecast Maps (right) for Monday, Tuesday, Wednesday.

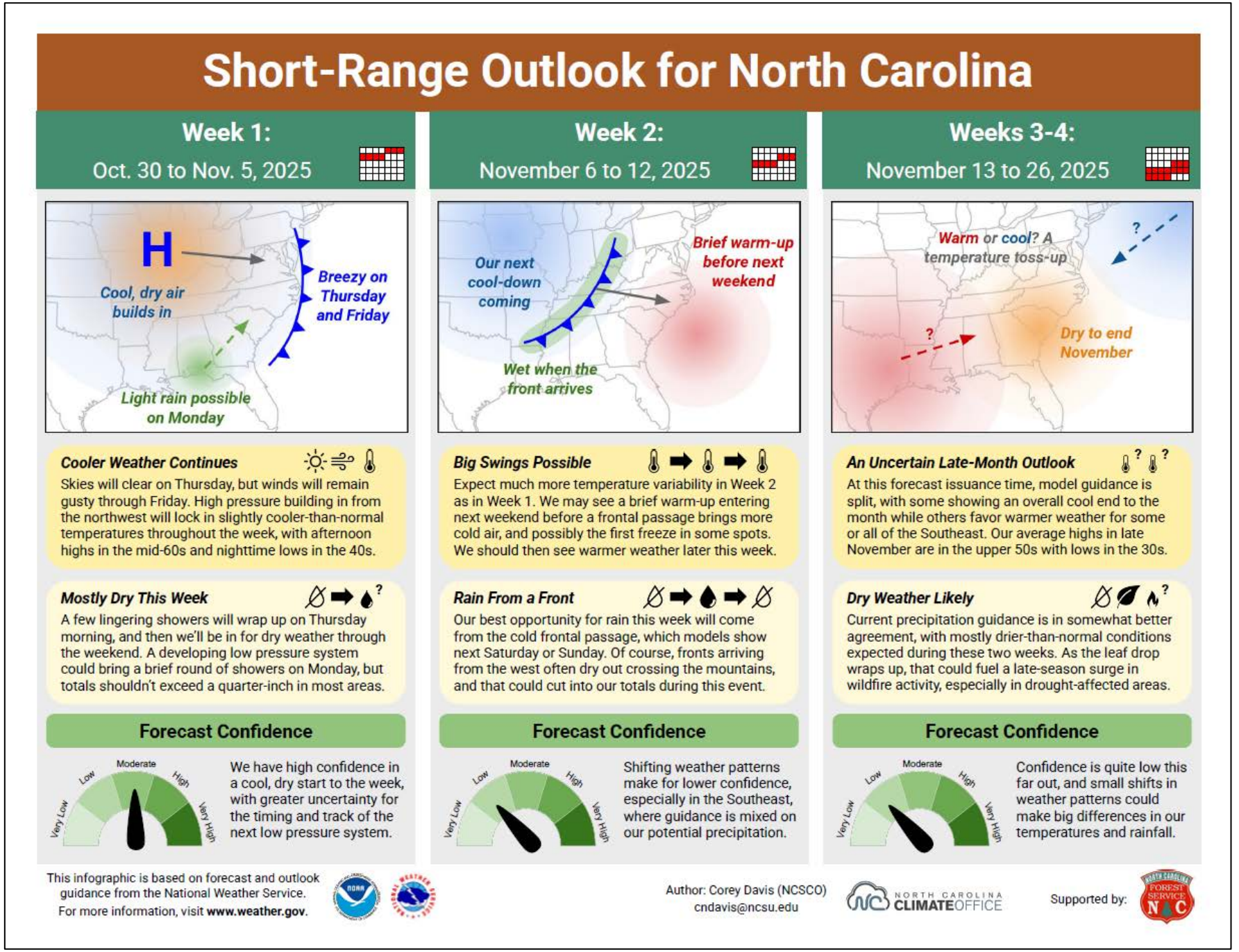






State Climate Office: Short-Range Monthly Outlook for NC

Released ***10/30/25***
Location: https://climate.ncsu.edu/fire/outlooks/

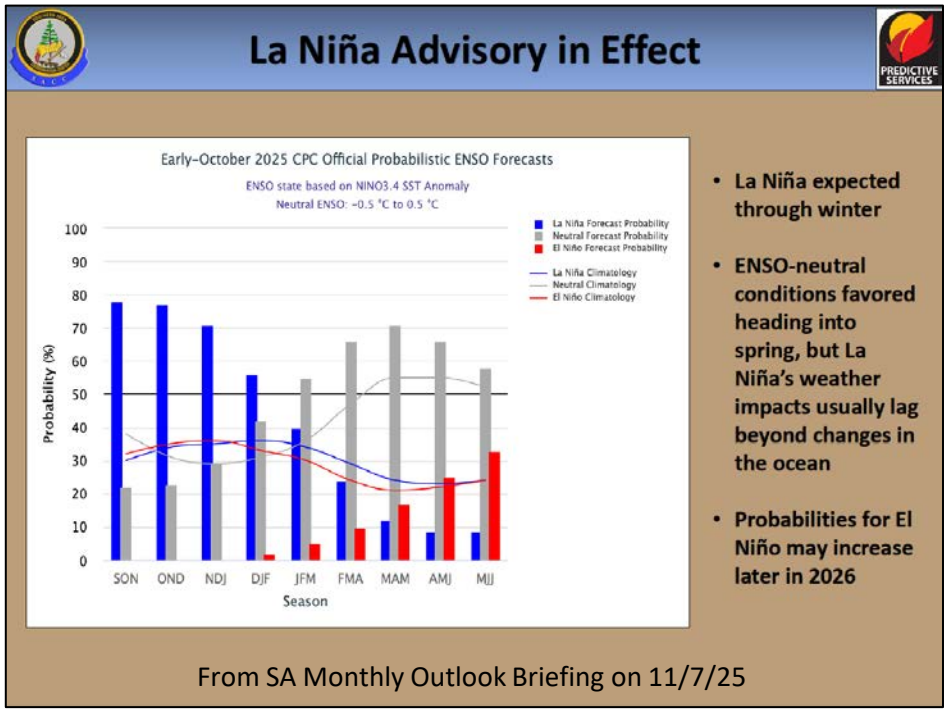


ENSO Notes from the CPC (11/3/25 Update)

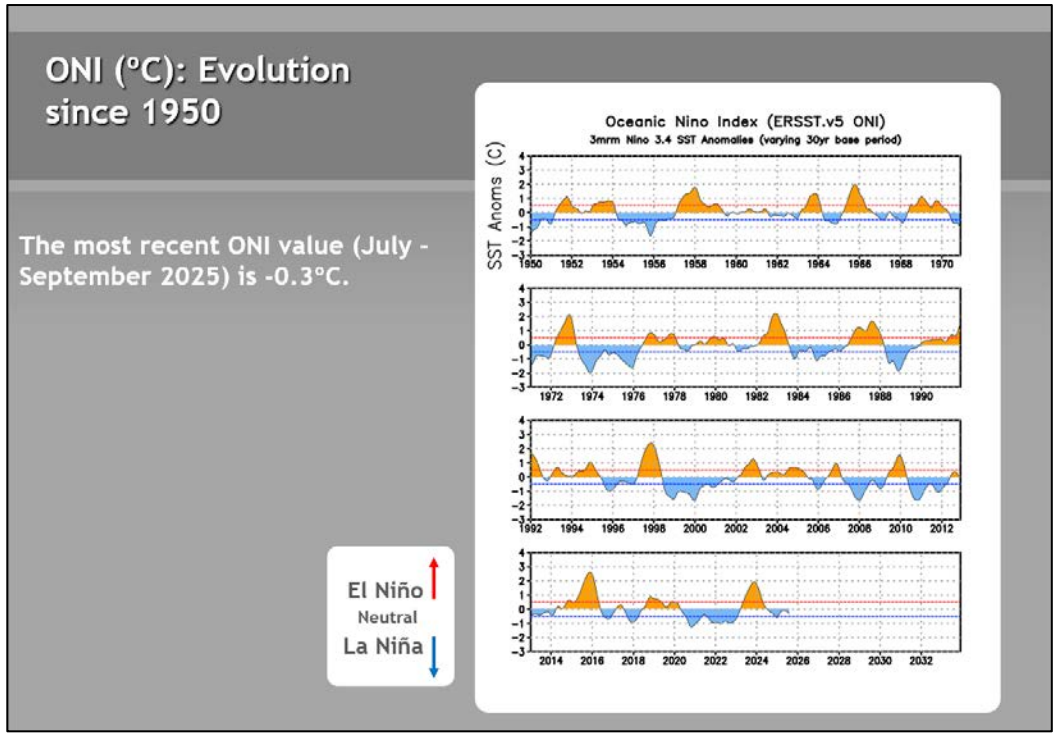
ENSO Alert System Status: **La Niña Advisory**

La Niña conditions are present and favored to persist through December 2025 - February 2026, with a transition to ENSO-neutral likely in January-March 2026 (55% chance).

ENSO, or El Nino Southern Oscillation, is a fluctuation in the sea surface temperature (SST) in the equatorial Pacific Ocean. Research has shown that even slight changes in the SST, particularly in area 3.4, can influence weather in North America. Generally, when SSTs are lower than normal, known as La Nina, NC has drier than normal conditions and can have more fire occurrence. However, La Nina also can lead to more tropical activity. El Nino, on the other hand, usually means wetter weather for NC, but less opportunity for tropical landfalls due to increased wind shear. In order to declare a La Nina, the departure from average SST must be at least -0.5° C (line shown in green) for 3 consecutive months. For El Nino, the departure must be at least 0.5° C above average for 3 consecutive months.



From SA Monthly Outlook Briefing on 11/7/25



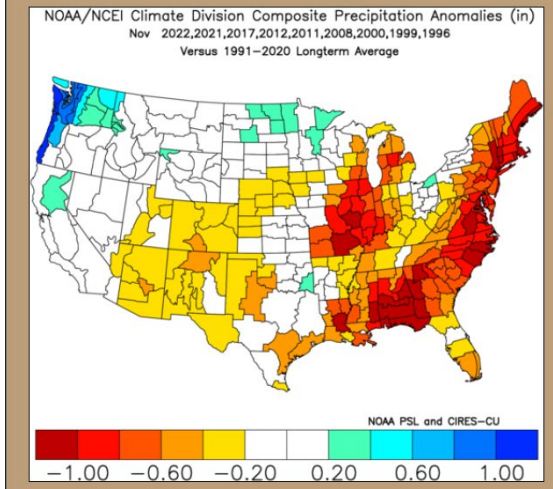
From the most recent CPC Diagnostic Discussion (ENSO Diagnostics Discussion):

The IRI multi-model predictions favor La Niña through the Northern Hemisphere winter 2025-26 (Fig. 6). The North American Multi-Model Ensemble is also in agreement, and based on recently observed anomalies, the team favors La Niña to continue through winter. At this time, La Niña is expected to remain weak (3-month average Niño-3.4 index value at or between -0.5C and -0.9C). A weak La Niña would be less likely to result in conventional winter impacts, though predictable signals could still influence the forecast guidance (e.g., CPC's seasonal outlooks). In summary, La Niña conditions are present and favored to persist through December 2025 - February 2026, with a transition to ENSO-neutral likely in January-March 2026 (55% chance; Fig. 7).

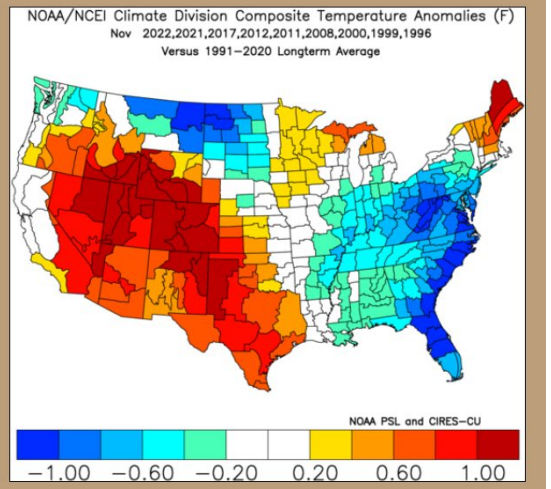
Slide Source: *https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/enso_evolution-status-fcsts-web.ppt*

Potential Analogs This Year

November Precipitation



November Temperatures

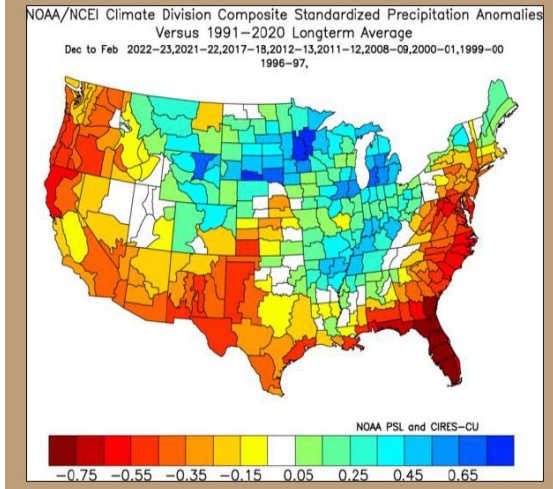


- Analogs chosen based on alternative measures of La Niña
  - Multivariate ENSO Index (MEI.v2)
  - Relative Oceanic Niño Index (RONI)

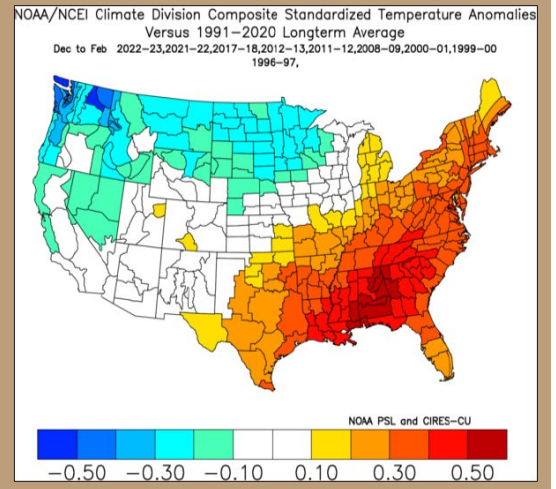
- Multi-year La Niñas include the winters of:
  - 1996-1997, 1999-2000, 2000-2001, 2008-2009, 2011-2012, 2012-2013, 2017-2018, 2021-2022, 2022-2023

Potential Analogs This Year

Winter Precipitation

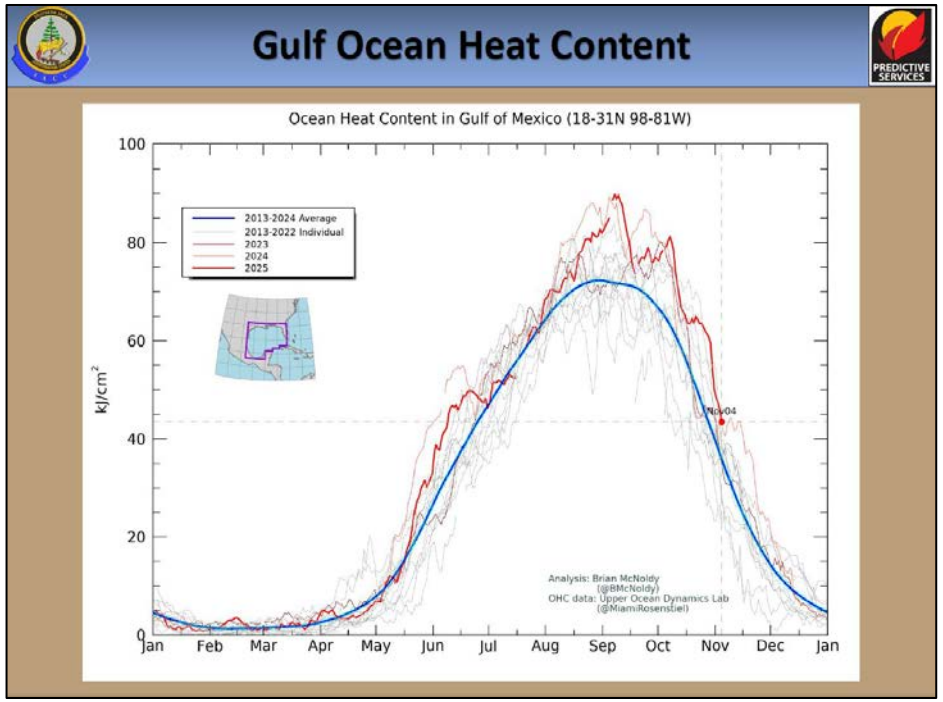


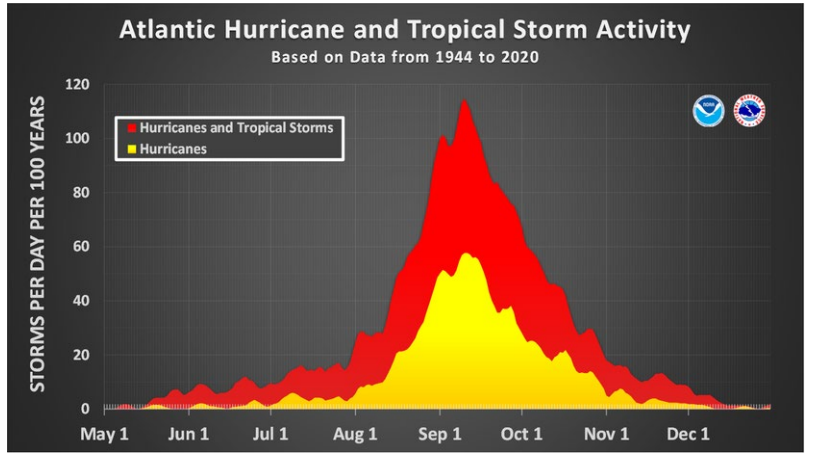
Winter Temperatures

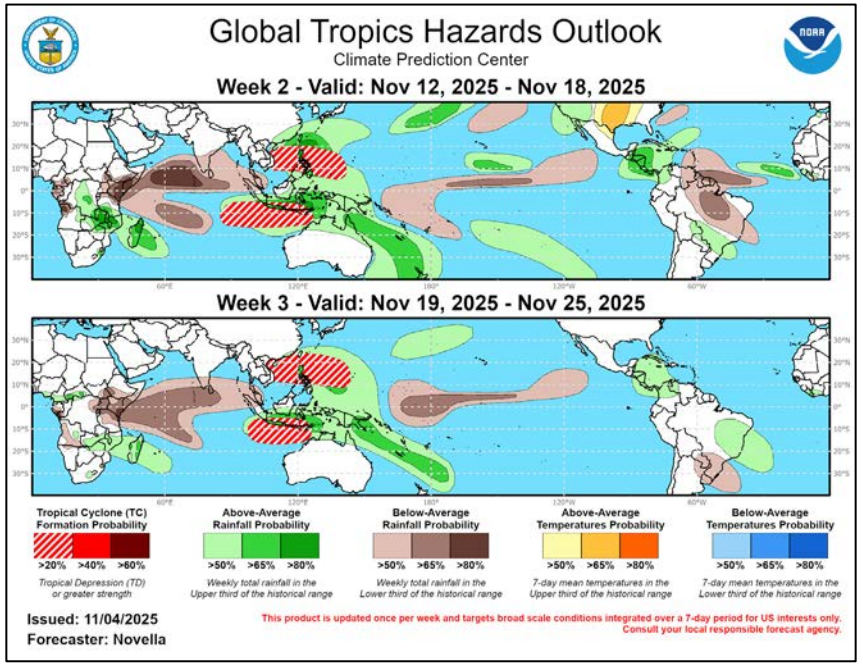


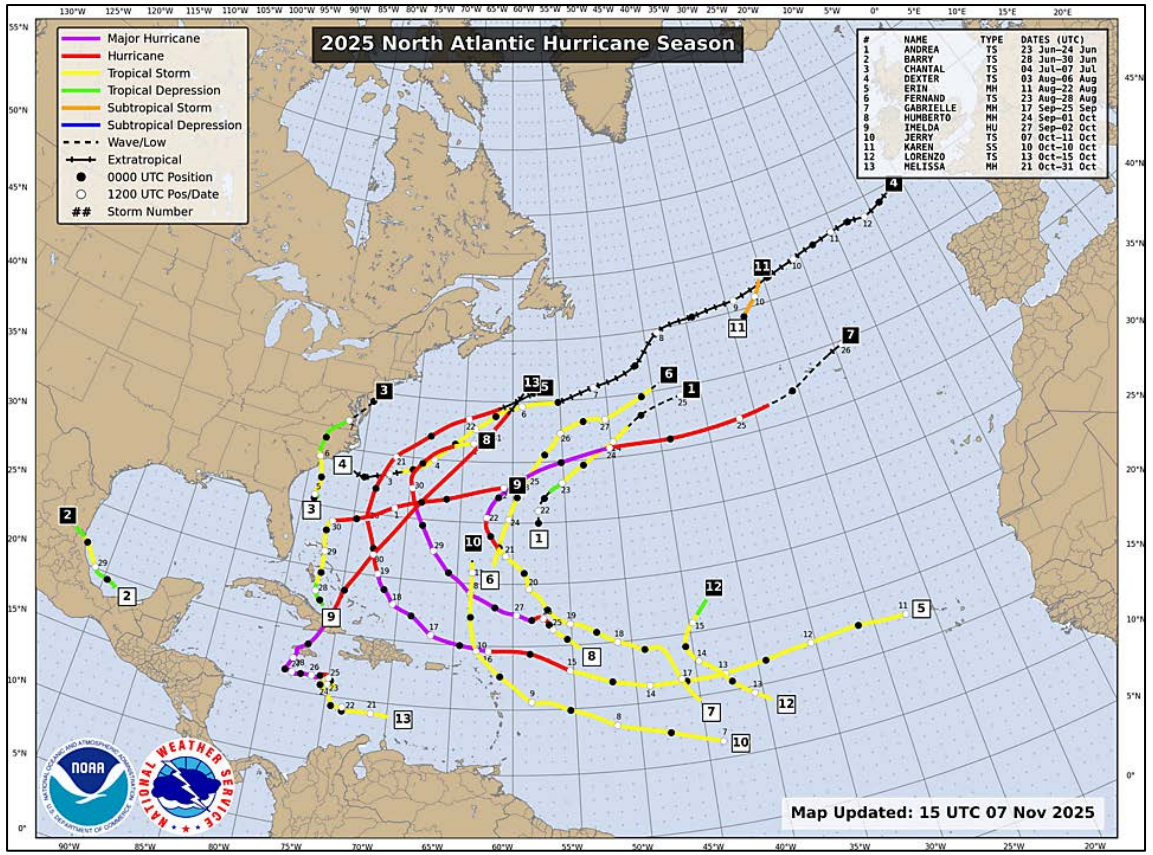
From SA Monthly Outlook Briefing on 11/7/25

Tropical Related









https://www.nhc.noaa.gov/data/tcr/?tex
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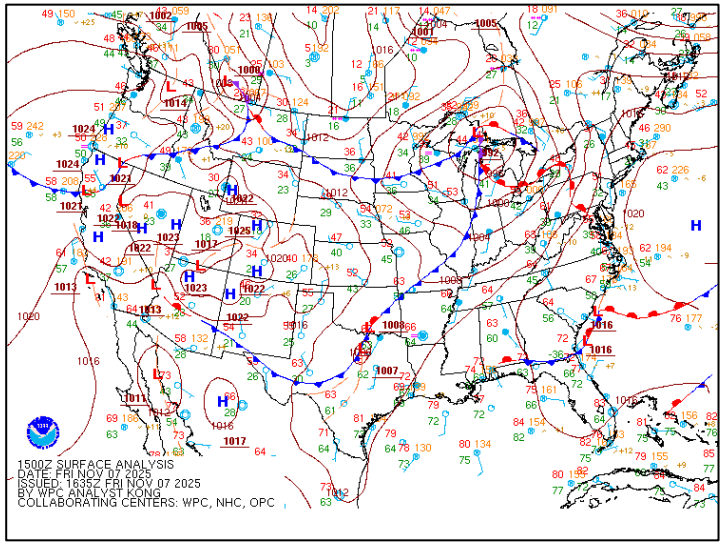
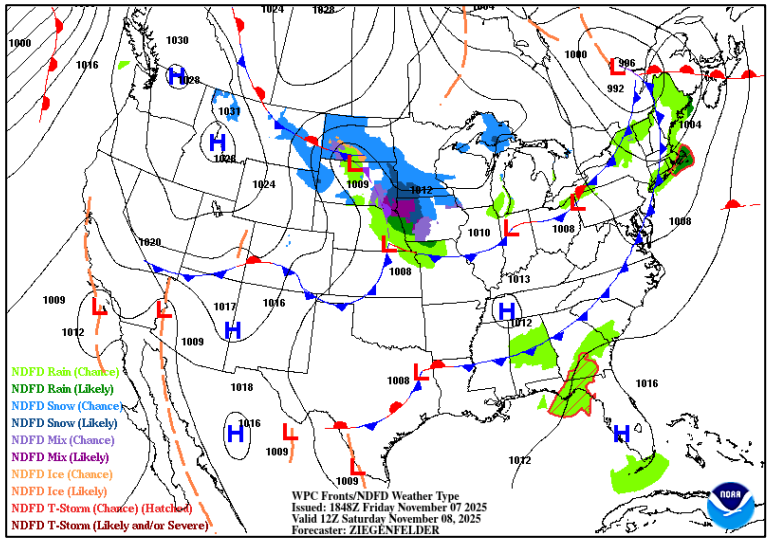
WPC Forecasted Surface Fronts & Sea-Level Pressures

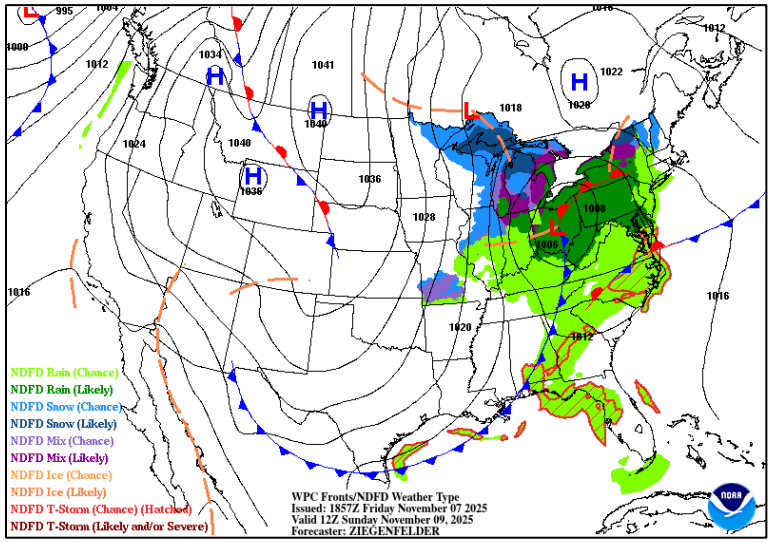
Day-1 @ 15Z Surface Analysis



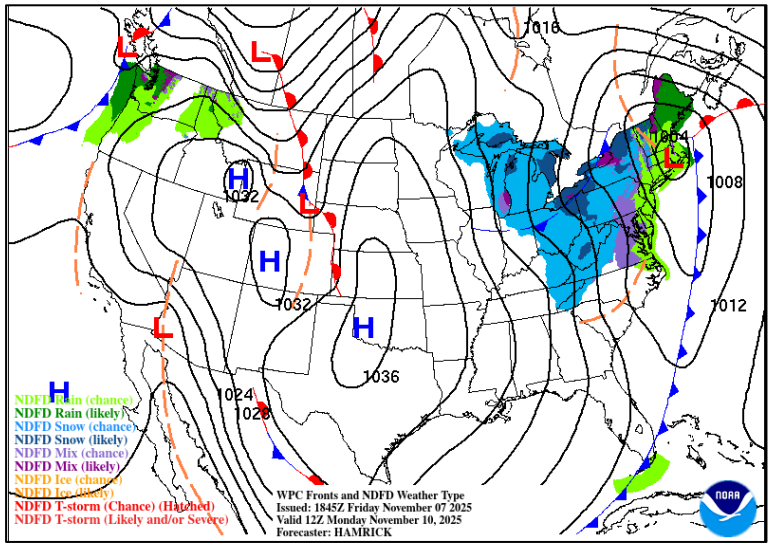
Day 2 - @ 12Z (0700 EST)



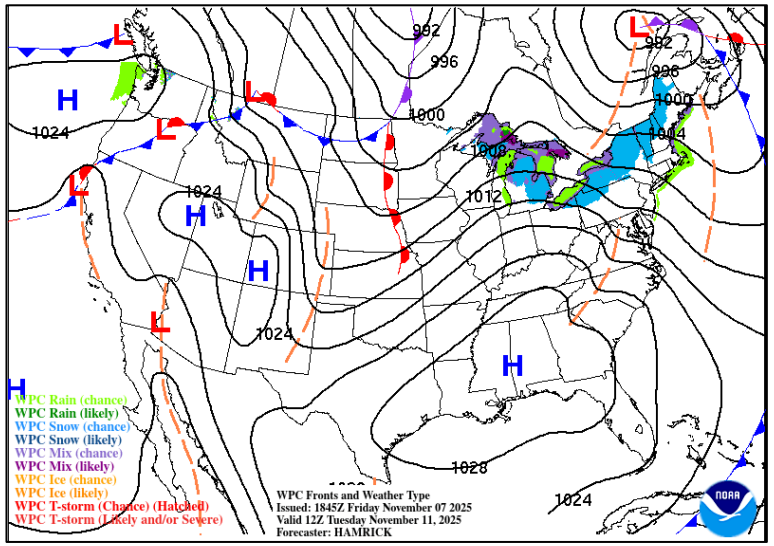
Day 3 @ 12Z (0700 EST)



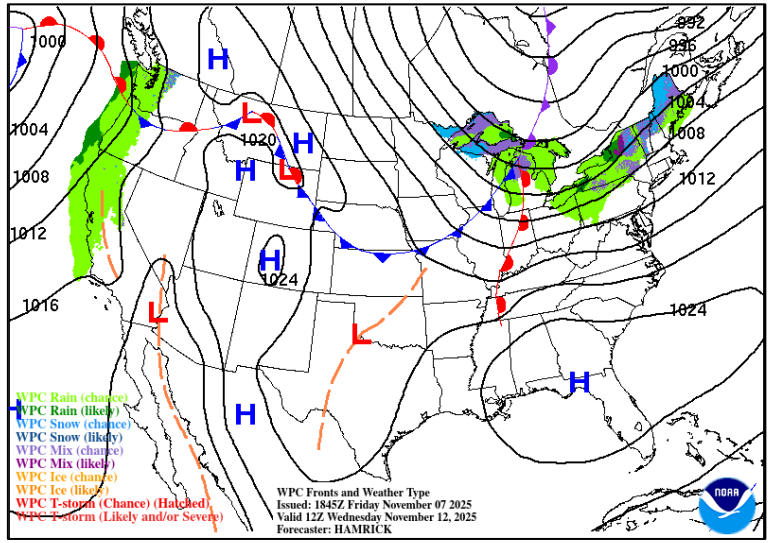
Day 4 @ 12Z (0700 EST)



Day 5 @ 12Z (0700 EST)



Day 6 @ 12Z (0800 EST)

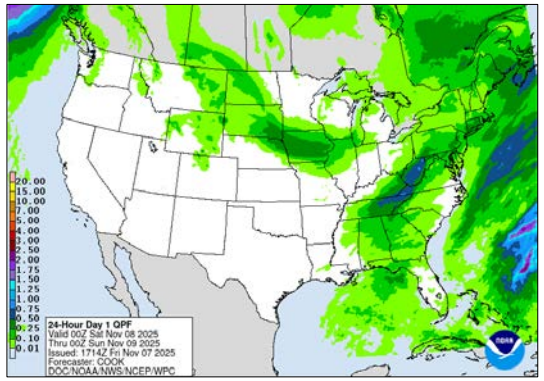


Location: https://www.wpc.ncep.noaa.gov/#

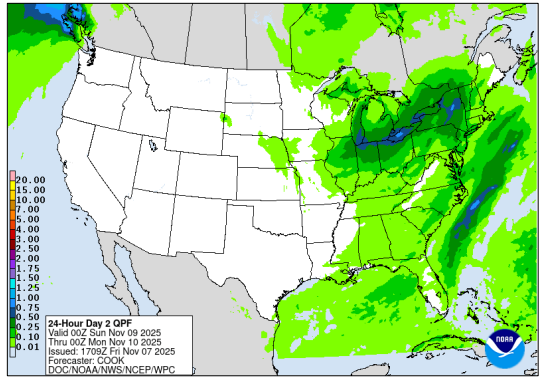
Quantitative Precipitation Forecast, 7-Day

Location: https://www.wpc.ncep.noaa.gov/#

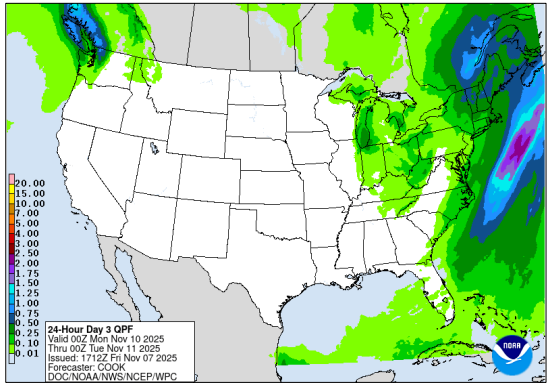
Day – 1



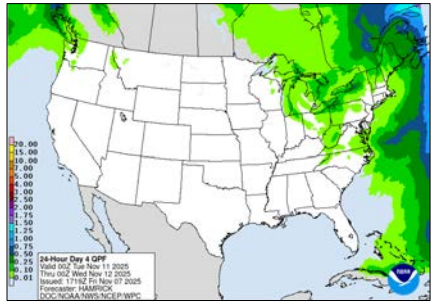
Day - 2



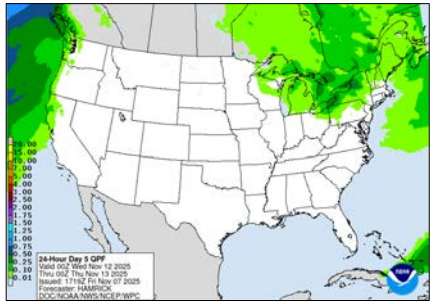
Day - 3



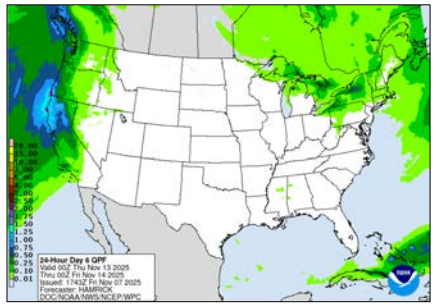
Day - 4



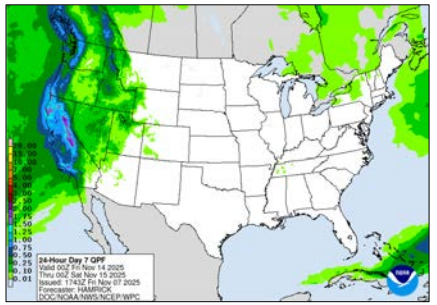
Day - 5



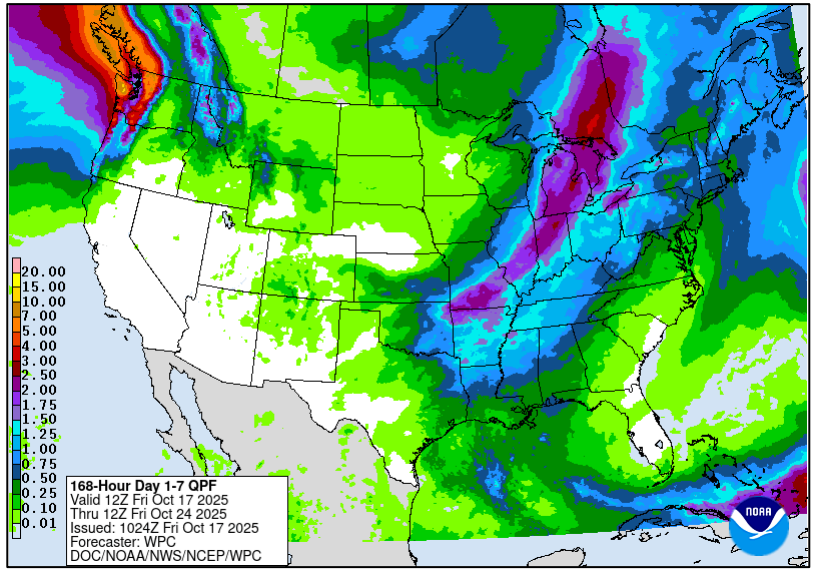
Day - 6



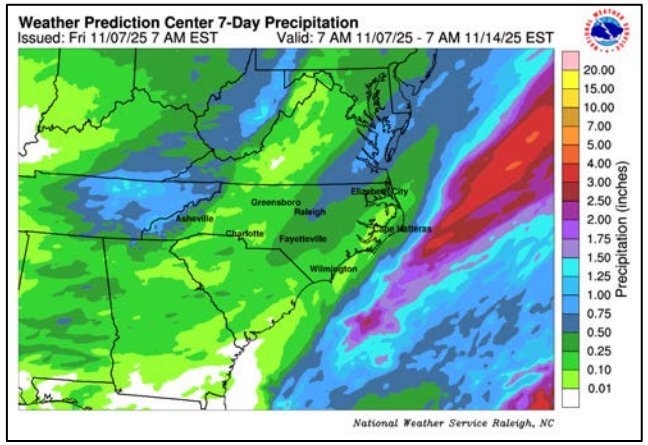
Day - 7

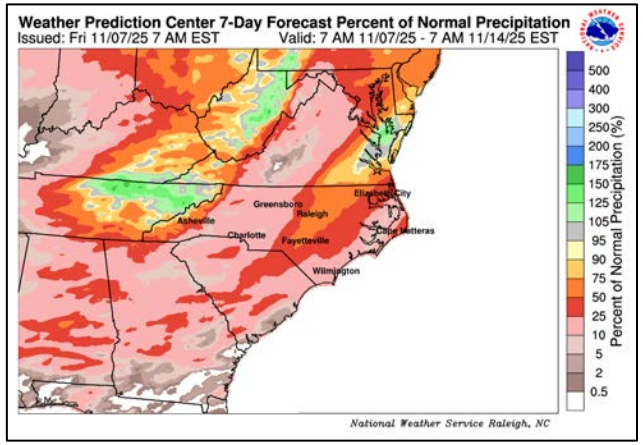


Days 1 – 7 QPF



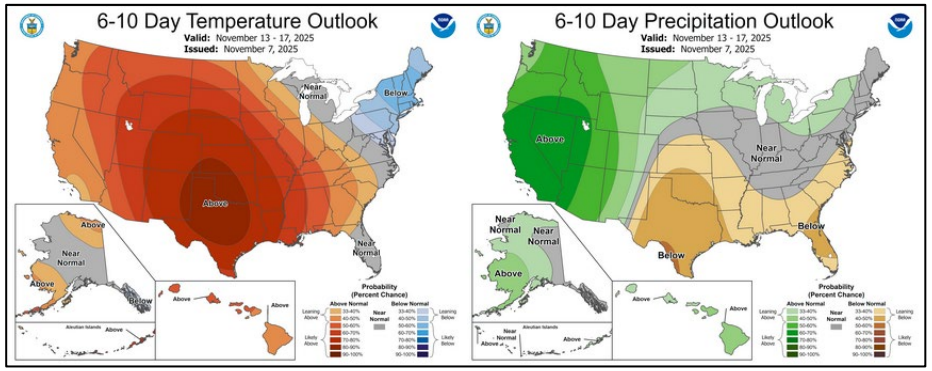
Zoom - Days 1 – 7 QPF

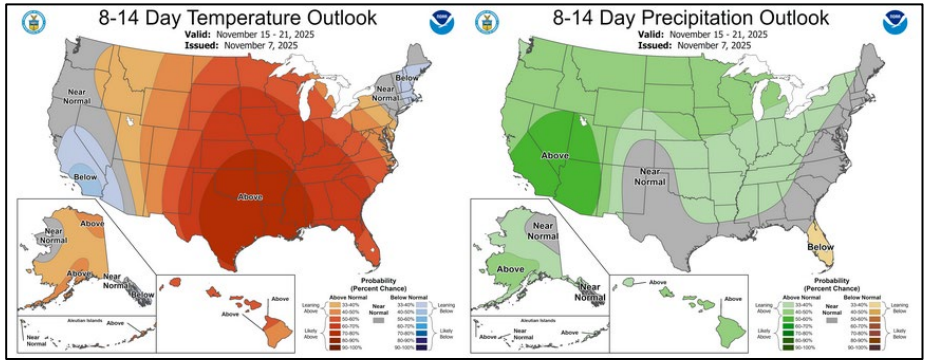


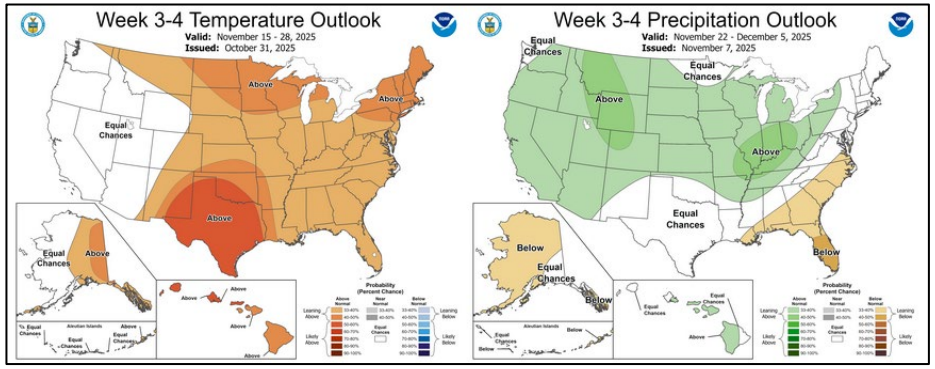


Temp & Precip Outlook

6-10 Day, 8-14 Day, Weeks 3-4, Seasonal (N/D/J, D/J/F, J/F/M)

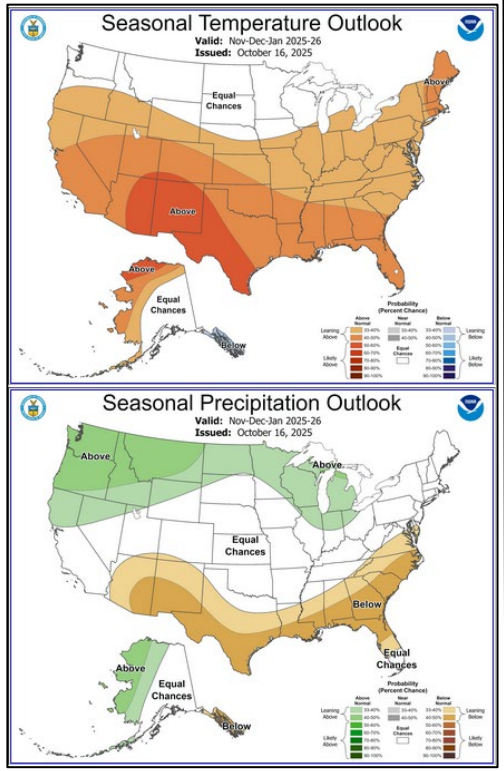




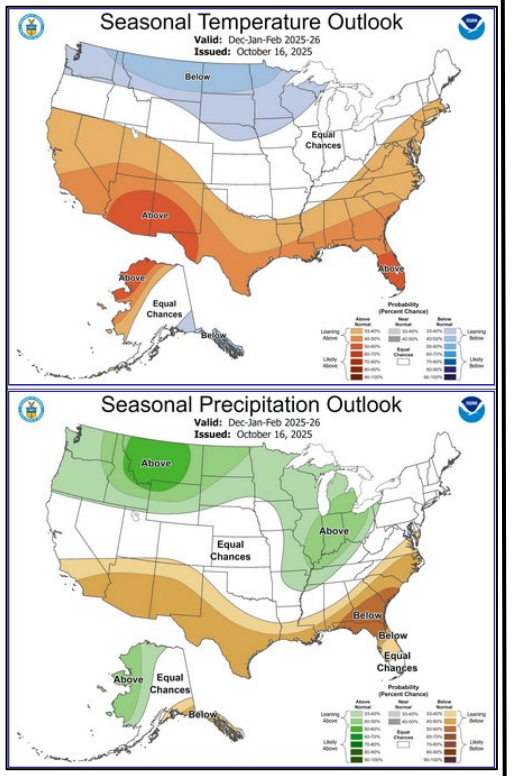


https://www.cpc.ncep.noaa.gov/products/predictions/long_range/fxus05.html

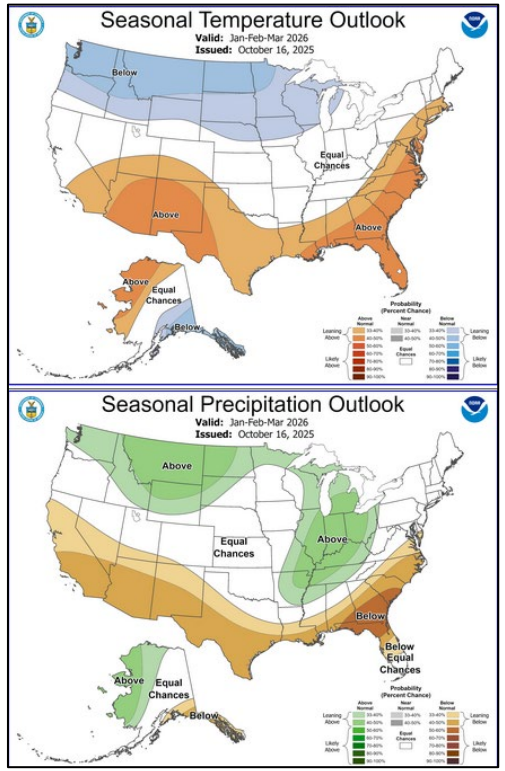
Nov-Jan



Dec-Feb



Jan-Mar



Last Updated by CPC on October 16th

Source: https://www.cpc.ncep.noaa.gov/

FEMS Integration Notes & FWIP Updates

DISCONTINUE USE OF OLD North Carolina Forest Service GENERATED POCKET CARDS, as these no longer match the new period of record, fuel model, or method of fire danger calculation used in FEMS/NFDRS-V4.

New materials are in development and will be distributed soon.

The national move to FEMS occurred on 10/1/25

FEMS is operational & continues to be updated – the next planned update will be in December 2025.

Refer to the FEMS website for briefing documentation and other FAQ related materials.

- Mesonet stations are not currently included in FEMS.
  - ASOS and AWOS stations are available as additional data sources but include no historical period of record.
  - State mesonet networks (such as the NC State Climate Office "ECONet") are still planned for inclusion in late 2025.

- Portable RAWS stations have not yet been incorporated in the FEMS "Weather" display.
  - These stations will not have fire danger calculations generated (unlike WIMS).
  - FWIP is again displaying portable RAWS weather outputs, but not NFDRS.

- The Fire Weather Intelligence Portal continues to adjust queries and scripts to align with FEMS specifications and available stations.
  - Interim analysis has been completed and percentiles/breakpoints loaded into several commonly used FWIP pages.
  - Adjustments continue in the FWIP including data download, and additional tool development

- Fire Danger is no longer calculated once per day at 1300 Local Time (WIMS).

- Fire Danger is calculated hourly in FEMS – based on midnight to midnight using UTC/LST as a framework.
  - The focus is on capturing daily maximums and minimums, rather than relying on a single 1300 snapshot—which rarely represented the "worst-case" hour.
  - Because of this change, older WIMS generated outputs and FEMS numerical outputs & percentiles should **not** be treated as interchangeable.

- Please continue to provide feedback if you see potential errors – example Rockingham RAWS KBDI issue (D3).

****Expect some hiccups as the new system continues to be integrated into daily operations across the US.****

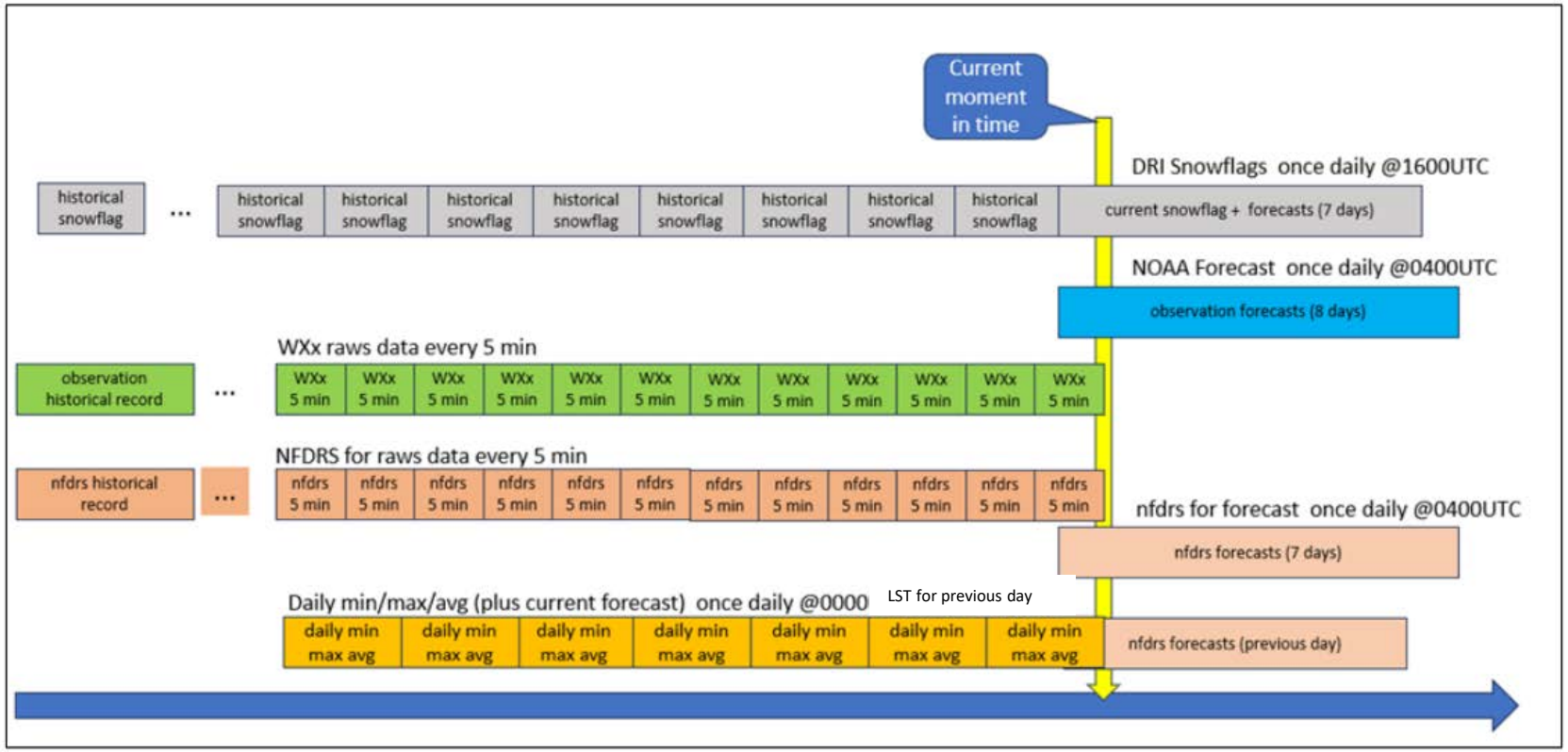
Fundamentals of FEMS:

Weather Forecasts & Data Management

- **Forecast Source & Updates**
  - Hourly forecasts are provided directly from the **Office of Atmospheric Research (OAR)**, not from local weather service offices.
  - Forecast periods align with **NWS Midnight–Midnight** windows (not 1300–1300).
  - Forecasts are updated daily at **0400z**.
- **Snow Flags**
  - Snow flag observations are automated and updated daily at **1600z**.
  - Snow flags are **not part of the NOAA forecast**.
- **Weather Observations & Station Metadata**
  - Data and metadata are linked from **WXx-weather**; field users cannot adjust them directly in FEMS.
  - Station metadata can be updated in WXx by field staff and will sync to FEMS daily.
  - Missing or incorrect observation data **cannot be corrected at the field level**.
  - Large data gaps (e.g., due to transmission issues) must be downloaded from the station and submitted to the national program via coordinators for inclusion in FEMS.
  - The national program continues to develop a **standard process for gap-filling and quality control (QC)**.
- **System-Level Management**
  - FEMS uses **catalog-based fire danger parameters**; multiple stations can be assigned to a single catalog.
  - Regional-level catalogs (e.g., Southeast, Midwest, Northwest) will be developed to tailor GSI and related settings.
  - The old method of individual station adjustments created wide inconsistencies across agencies, regions, and from station to station.
  - A **QA/QC'd climatological dataset** provides consistent historical weather records (2005–2022, or from station establishment if later - through 2022). Currently limited to permanent Satellite RAWS.
- **Access & Use Differences: FEMS vs WIMS**
  - Most field staff will **not need a FEMS login** via FamAuth.
  - Field staff will not edit catalogs, weather observations, or individual station parameters (not same format as WIMS).
  - A **public-facing FEMS site** allows staff to manipulate maps, view stations, run basic reports, and download most data.
  - The FEMS portal is intuitive and provides a variety of **graphs, tables, and visualization tools**. (V 3.4 update just released)
  - Pay close attention to the FEMS Map Legend & if you are looking at hourly or daily min/max: Circles = Observed Values & Diamonds = Forecasted Observations.
  - Daily Max/Min & precip accumulation values are moved from "forecast" version to "observed" version shortly after midnight local station time the next day.
  - Hourly Observed Values are moved from "forecast" to "observed" version shortly after transmission from the RAWS Station, why there is a mixture displayed depending on transmission timing (see next slide).
  - Nationally, the seasonal Trend Chart Percentile rankings for each station **in the FEMS portal** run from the 2005-2022 Period of Record Analysis (if available).

Graphic from FEMS to explain ingestion timing and data availability relationship.

FEMS ingestion timing and data availability at a given instance in time



Please refer to the Transition Materials link for briefing materials, updating as needed by the national program.
Please read the "Summary of Changes from WIMS to Fire Environment Mapping System (FEMS)" document.

Impacts Specific to NC: FDOP and Fire Danger Outputs

Weather Stations

•State Mesonet Stations (e.g., NC ECONet) have not yet been added.

Several North Carolina FDRAs rely on stations from alternate gateway sources (SCO ECONet).

For example, the East Piedmont FDRA utilized four of these ECONet stations.

•FEMS has recently incorporated ASOS and AWOS stations as a stopgap measure; however, these stations (e.g., RDU Airport) have no prior period of record & tend to be somewhat windier than missing ECONet Stations (example Asheville Regional Airport and RDU ASOS).

Live Fuel Moisture (LFM) Model

•Currently set to a national preliminary standard in FEMS.

•Four main drivers are used: Day Length, Minimum Temperature, Vapor Pressure Deficit, and Running Total Precipitation.

•The GSI-derived LFM Model standard settings create fundamental limitations that directly affect FM-V, FM-W, and FM-X.

•National standard settings do not allow regional adjustments for local growing conditions. This will evolve over time as bugs are addressed, stations are added, and further analysis is completed. Not an issue as we move into dormancy/end of growing season. Also, FM-Z does not use live fuel moisture.

Data and Modeling Updates

•FF+ Databases have been recalculated to align with new FEMS standards (see earlier documentation).

•For this interim update of the NC FDOP's data, Fuel Model - Z has been used, due to the known LFM limitations in the initial FEMS rollout.

•A reevaluation will be necessary over the next year as additional alternate gateway station types are integrated & regional GSI calibrations are carried out.

FDOP Revision Status

•NC FDOP updates were started but then paused to allow time for FEMS development through early summer 2025.

•This pause has been recommended nationwide to ensure consistency as development progresses.

•Interim breakpoints and model combinations have been established, with a complete revision needed once FEMS is adjusted further (earlier topics).

Overall

•Weather and fire occurrence data (**2010–2024**) have been processed to establish initial working breakpoints for FEMS/V4 outputs.

•Interim analysis has been completed – now driving fire danger products (e.g., adjective ratings and hazard levels) utilizing FM-Z and the 2010-2024 period of record.

•Discontinue use of old NC Forest Service generated Pocket Cards, replacement materials matching the new analysis are being generated & will be released soon.

Work at the national, regional, state, and FDRA levels will continue as FEMS is updated following rollout.

Fire Danger Rating Area Summaries:

Analysis Settings				Matrix Combinations	
FDRA	Time Range	Daily Extremes	FM	Staffing/Hazard Level	Adjective Rating
Northern Coastal Plain	2010-2024	Y	Z	ERC/BI	ERC
Southern Coastal Plain	2010-2024	Y	Z	ERC/BI	ERC
Eastern Piedmont	2010-2024	Y	Z	ERC/BI	ERC
Sand Hills	2010-2024	Y	Z	ERC/BI	ERC
Western Piedmont	2010-2024	Y	Z	ERC/BI	ERC
Blue Ridge Escarpment	2010-2024	Y	Z	ERC/IC	ERC
Central Mountains	2010-2024	Y	Z	ERC/IC	ERC
Northern Highlands	2010-2024	Y	Z	ERC/BI	ERC
Southern Highlands	2010-2024	Y	Z	ERC/IC	ERC

FDRA	Special Interest Group Stations (SIG Stations)	Missing SIG Stations
Northern Coastal Plain	Dare Bomb Range, Elizabeth City, Fairfield, Greens Cross, Pocosin Lakes NWR	0
Southern Coastal Plain	Beaufort, CL1 Sandy Run, New Bern, Turnbull Creek, Hofmann, Whiteville, Sunny Point, Finch's Station	0
Eastern Piedmont	Central Crops RS**, Lake Wheeler**, Oxford Tob RS**, Upper Coastal RS**, Warrenton, ASOS RDU AP, ASOS RM-Wilson AP	4
Sand Hills	Fort Bragg, Horseshoe House, Rockingham, Sandhills RS**, ASOS Laurinburg-Maxton AP	1
Western Piedmont	Caswell Game Land, Duke Forest, Lexington, Mt Island Lake	0
Blue Ridge Escarpment	North Cove Pinnacle, Raven Knob, Redezvous Mtn, Rutherford Co Hq, Taylorsville (Lenior)	0
Central Mountains	Davidson River, Guion Farms, Mtn Hort RS**, Seven Mile Ridge, ASOS Asheville Regional AP	1
Northern Highlands	Busick, Jessen Station, Upper Mtn RS**, Laurel Springs*	2
Southern Highlands	Highlands, Jackson County, Locust Gap, Tusquitee	0

- Period of Record Issues, ASOS Airport Stations added as a stop-gap.
- East Piedmont and Northern Highlands most impacted.
- Red Colored Stations = Added Satellite RAWS, Blue Colored Stations = ASOS Stations, ** Denoted Stations = ECONet Stations Missing from SIG, * Denoted Station = Historical/Inactive Station

Fire Weather Intelligence Portal – Current Links

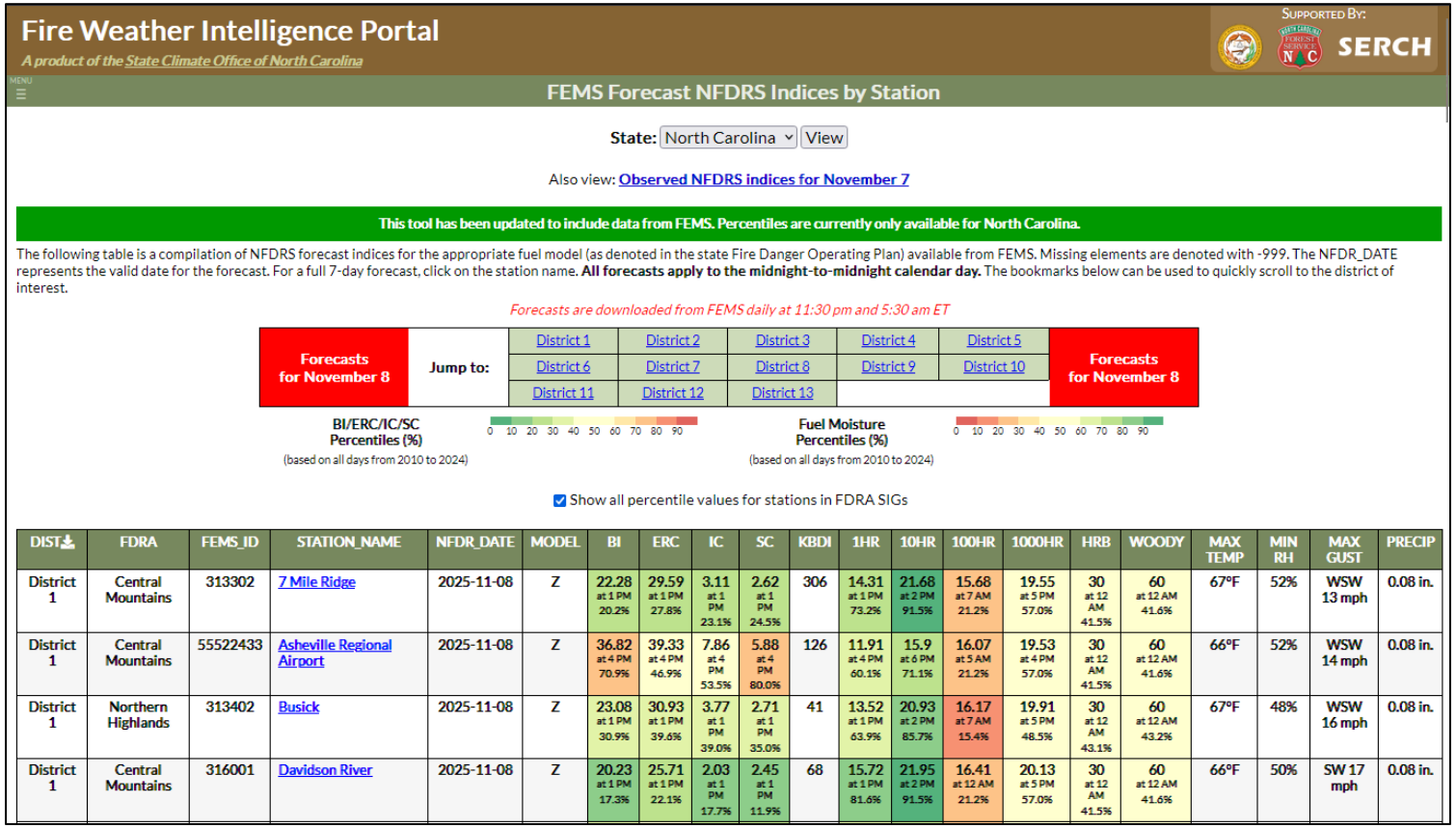
The interim breakpoints and percentiles based on FEMS implementation have been applied to the FWIP for North Carolina FDRAs. Content continues to be added and tools updated.

- Public Facing Fire Danger Page
  (NC ratings based on ERC-Z analysis)
- Station Viewer Portal
  (Past, Current, Forecast Conditions Tab)
- Hazard Assessment Tool
  (based on ERC-Z/BI-Z or ERC-Z/IC-Z depending on FDRA)
- FEMS Forecast NFDRS Indices by Station
  (displays values for hour of forecasted max/min extreme of calendar day, switches to the next day's forecast after ~1500, reminder that ECONet stations are still not available)
- FEMS Observed NFDRS Indices by Station
  (displays values for hour of observed max/min extreme as it is hit during the current calendar day, reminder that ECONet stations are still not available)
- Station Status Tool
- Quality Control Viewer Tool

The Weekly Outlook Tool is still offline – being revised to conform to new analysis/FEMS integration.

NFDRS Max/Min Daily Forecast Observations for tomorrow, 11/8/25

(Bottom of page has Averaged listing for each FDRA by SIG Group & "All Days Filter" for the 2010-2024 Period of Record)



Fire Weather Intelligence Portal

A product of the State Climate Office of North Carolina

Supported By: SERCH

FEMS Forecast NFDRS Indices by Station

State: North Carolina View

Also view: Observed NFDRS indices for November 7

This tool has been updated to include data from FEMS. Percentiles are currently only available for North Carolina.

The following table is a compilation of NFDRS forecast indices for the appropriate fuel model (as denoted in the state Fire Danger Operating Plan) available from FEMS. Missing elements are denoted with -999. The NFDR_DATE represents the valid date for the forecast. For a full 7-day forecast, click on the station name. **All forecasts apply to the midnight-to-midnight calendar day.** The bookmarks below can be used to quickly scroll to the district of interest.

Forecasts are downloaded from FEMS daily at 11:30 pm and 5:30 am ET

Forecasts for November 8 | Jump to: District 1 | District 2 | District 3 | District 4 | District 5 | District 6 | District 7 | District 8 | District 9 | District 10 | District 11 | District 12 | District 13 | Forecasts for November 8

BI/ERC/IC/SC Percentiles (%) 0 10 20 30 40 50 60 70 80 90 (based on all days from 2010 to 2024)

Fuel Moisture Percentiles (%) 0 10 20 30 40 50 60 70 80 90 (based on all days from 2010 to 2024)

Show all percentile values for stations in FDRA SIGs

DIST	FDRA	FEMS_ID	STATION_NAME	NFDR_DATE	MODEL	BI	ERC	IC	SC	KBDI	1HR	10HR	100HR	1000HR	HRB	WOODY	MAX TEMP	MIN RH	MAX GUST	PRECIP
District 1	Central Mountains	313302	7 Mile Ridge	2025-11-08	Z	22.28 at 1 PM 20.2%	29.59 at 1 PM 27.8%	3.11 at 1 PM 23.1%	2.62 at 1 PM 24.5%	306	14.31 at 1 PM 73.2%	21.68 at 2 PM 91.5%	15.68 at 7 AM 21.2%	19.55 at 5 PM 57.0%	30 at 12 AM 41.5%	60 at 12 AM 41.6%	67°F	52%	WSW 13 mph	0.08 in.
District 1	Central Mountains	55522433	Asheville Regional Airport	2025-11-08	Z	36.82 at 4 PM 70.9%	39.33 at 4 PM 46.9%	7.86 at 4 PM 53.5%	5.88 at 4 PM 80.0%	126	11.91 at 4 PM 60.1%	15.9 at 6 PM 71.1%	16.07 at 5 AM 21.2%	19.53 at 4 PM 57.0%	30 at 12 AM 41.5%	60 at 12 AM 41.6%	66°F	52%	WSW 14 mph	0.08 in.
District 1	Northern Highlands	313402	Busick	2025-11-08	Z	23.08 at 1 PM 30.9%	30.93 at 1 PM 39.6%	3.77 at 1 PM 39.0%	2.71 at 1 PM 35.0%	41	13.52 at 1 PM 63.9%	20.93 at 2 PM 85.7%	16.17 at 7 AM 15.4%	19.91 at 5 PM 48.5%	30 at 12 AM 43.1%	60 at 12 AM 43.2%	67°F	48%	WSW 16 mph	0.08 in.
District 1	Central Mountains	316001	Davidson River	2025-11-08	Z	20.23 at 1 PM 17.3%	25.71 at 1 PM 22.1%	2.03 at 1 PM 17.7%	2.45 at 1 PM 11.9%	68	15.72 at 1 PM 81.6%	21.95 at 2 PM 91.5%	16.41 at 12 AM 21.2%	20.13 at 5 PM 57.0%	30 at 12 AM 41.5%	60 at 12 AM 41.6%	66°F	50%	SW 17 mph	0.08 in.

A few General Reminders related to FEMS Implementation as you look at the above graphic:

BI/ERC/IC/SC Percentiles (%) 0 10 20 30 40 50 60 70 80 90

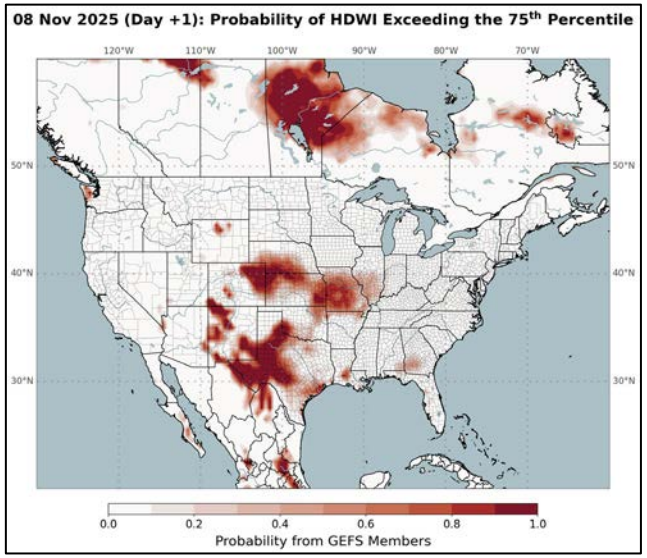
Fuel Moisture Percentiles (%) 0 10 20 30 40 50 60 70 80 90

- *NC is utilizing **FM-Z** for all FDRAs in North Carolina (this fuel model **DOES NOT USE** live fuels in the outputs for its indices, but an even distribution of 1/10/100/1000-hr dead fuels)*
- *Old FDRA specific NC Forest Service generated Pocket Cards* no longer match the new period of record, fuel model, or method of fire danger calculation used in FEMS/NFDRS-V4.
- *FEMS produces hourly fire danger – with Daily Max/Min Indices from Midnight-Midnight LST, not for once a day at 1300 LST like in WIMS.*
  - *The above values represent the max or min forecasted "hourly observed value" for 11/8/25*
  - *Forecast Observation MAX for indices and MIN for fuel moistures; new forecasts are run once a day around 0400 UTC to generate outputs for the next 7 days.*
  - *Grid forecast values are applied to station locations. Wind estimates from the gridded forecast may be higher than observed. Part of this is likely due to local station nuances related to vegetation or other obstructions impacting the station sensors. Another aspect may relate to differences between modeled 10-meter wind vs. the observed RAWS 20-ft wind speed standard.*

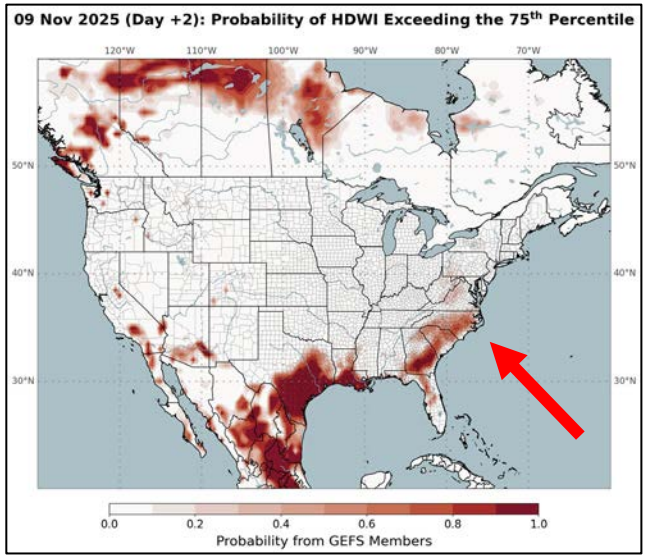
- *The Fire Weather Intelligence Portal continues to update text, internal databases/components, etc. as we move forward into full "FEMS" implementation.*
- *Adjustments will be made in FWIP as FEMS developers continue building out the system; any significant updates will be posted on the FWIP.*
  - *ECONet Stations remain unavailable in FEMS (45 stations in NC), so will not have NFDRS values produced – we hope to see them added by early 2026.*
  - *-999 Represents Null Values/place holder, observed weather values are still visible because they are queried from a separate data connection not involving FEMS.*

Hot-Dry-Windy Index (HDW)

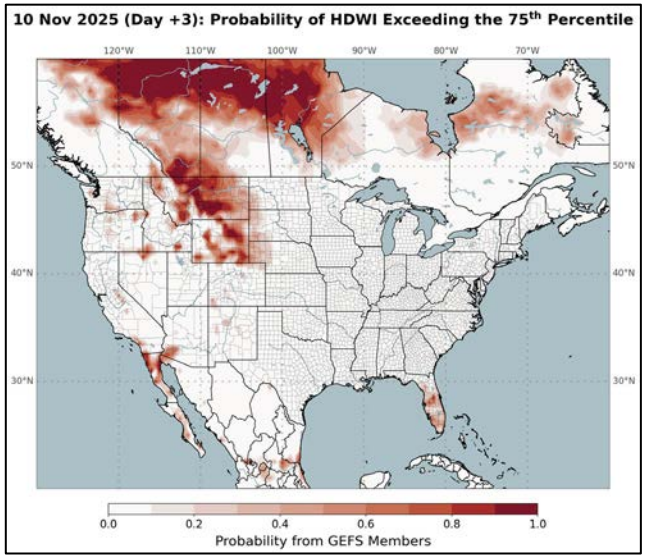
Saturday > 75th Percentile



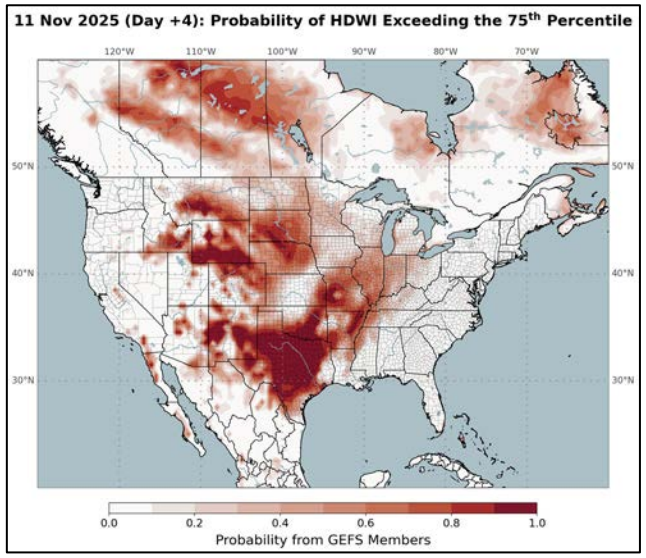
Sunday > 75th Percentile



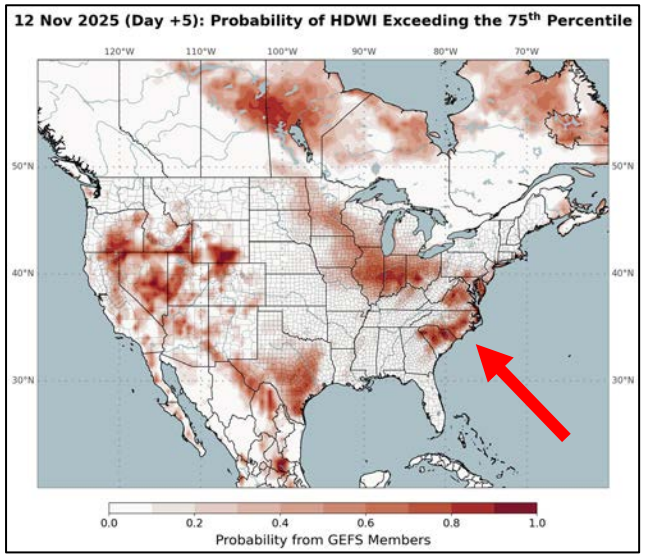
Monday > 75th Percentile



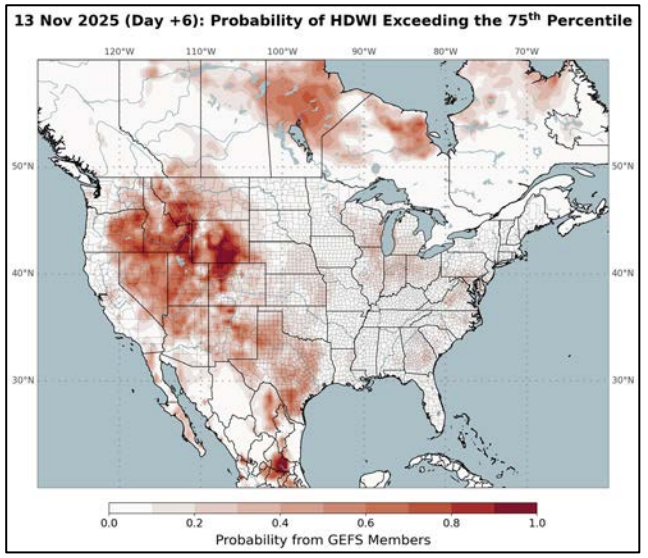
Tuesday > 75th Percentile



Wednesday > 75th Percentile



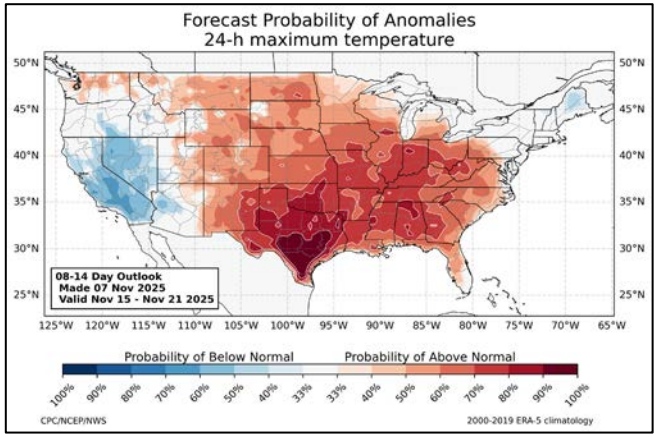
Thursday > 75th Percentile

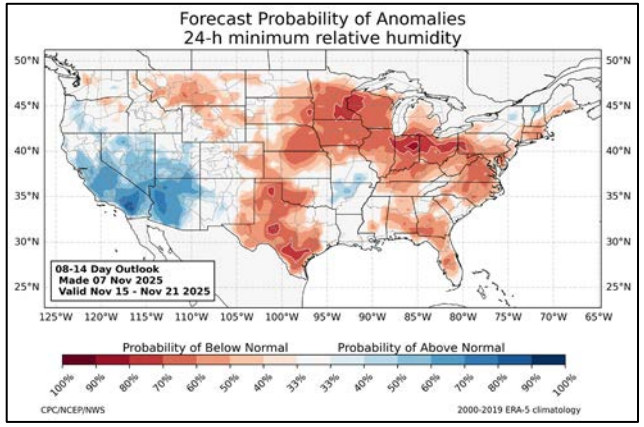


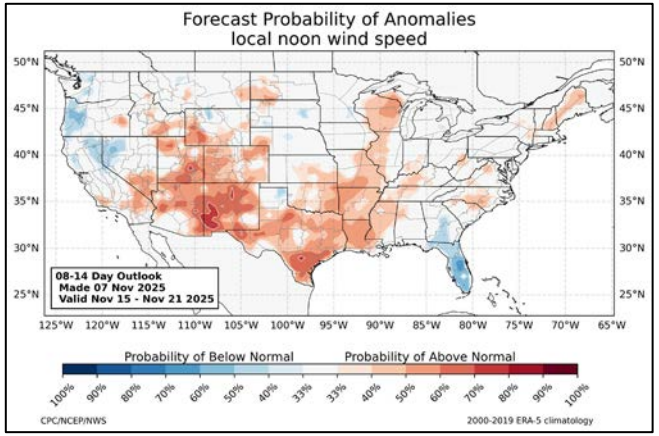
- Another visualization tool to pick up on broader weather, but with *limitations
- Only uses Max VPD (atmospheric moisture & temp) & Max Wind Speed to generate outputs
- Coarse Resolution - 0.5 Degree Grid
- No Account of Local Fuel Conditions and Topo

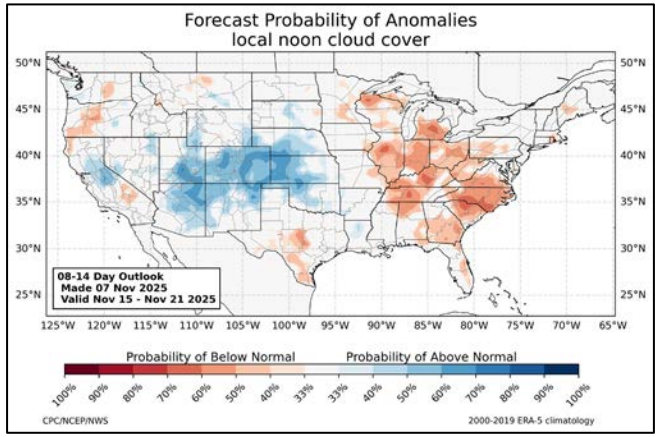
https://www.hdwindex.org/probs.html

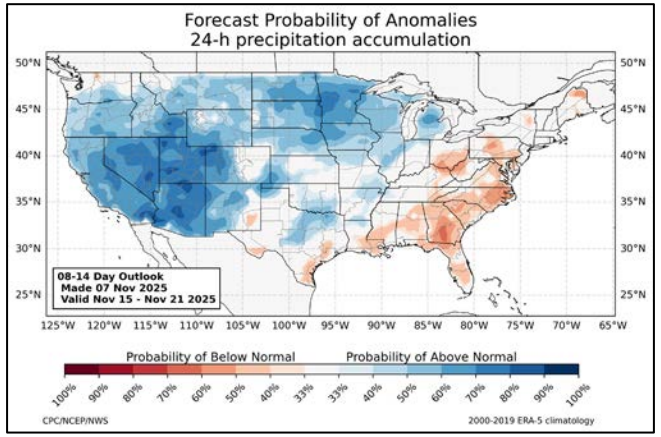
Week Two Forecast Anomalies: 11/15 - 11/21





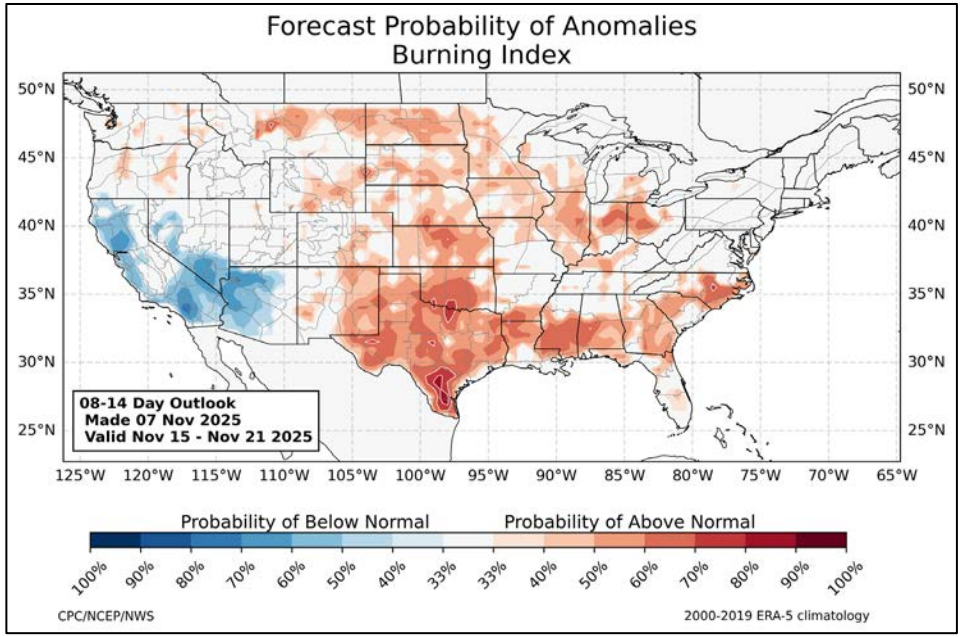


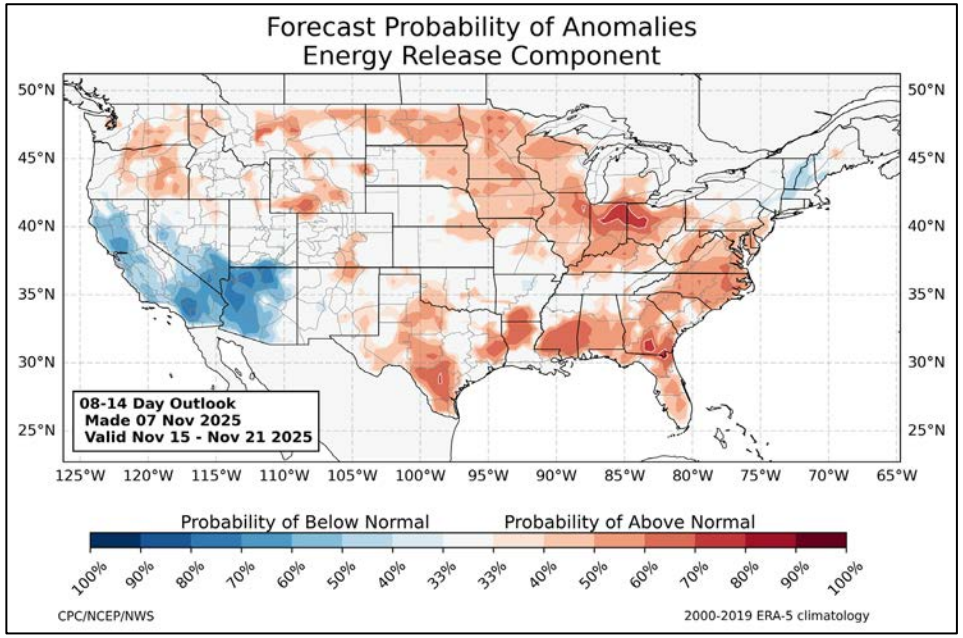




Important to note that there is significant forecast uncertainty as you go further out in time.

Warming/drying trend represented.



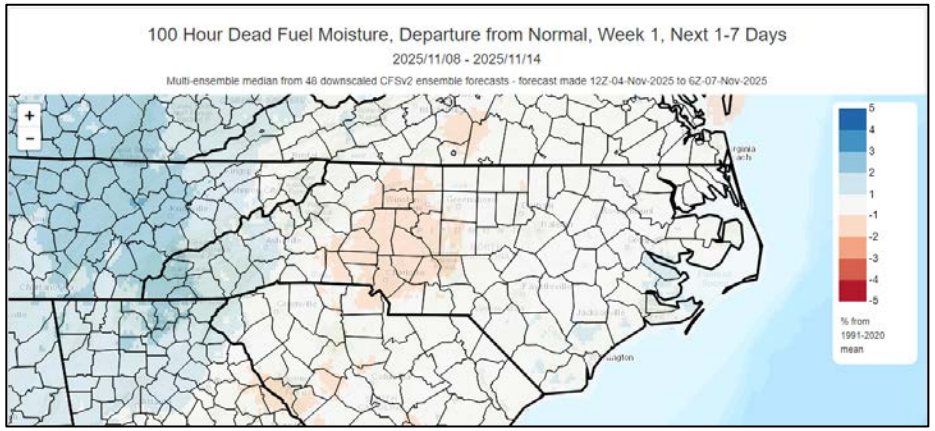


https://www.cpc.ncep.noaa.gov/products/people/mchen/fireWeather/cpc_wk2fw_index.html

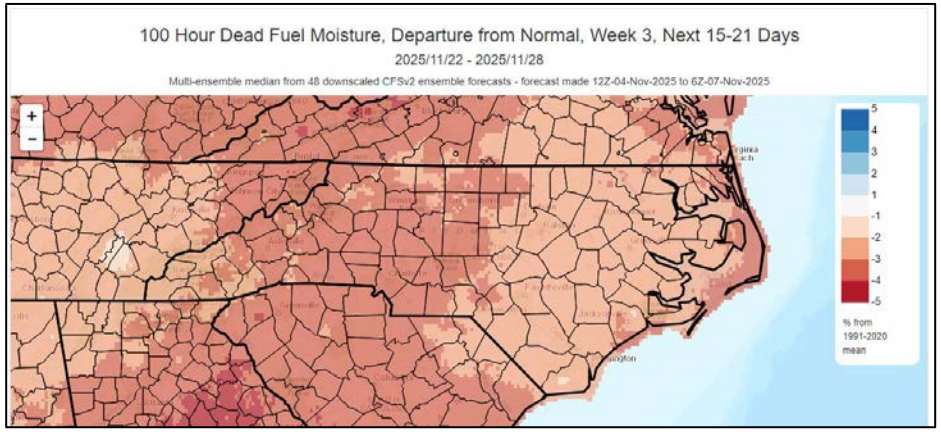
Modeled Departure from Normal by Week: 100-hr Fuels

Output relies on experimental forecast outputs and is subject to change

Week-1

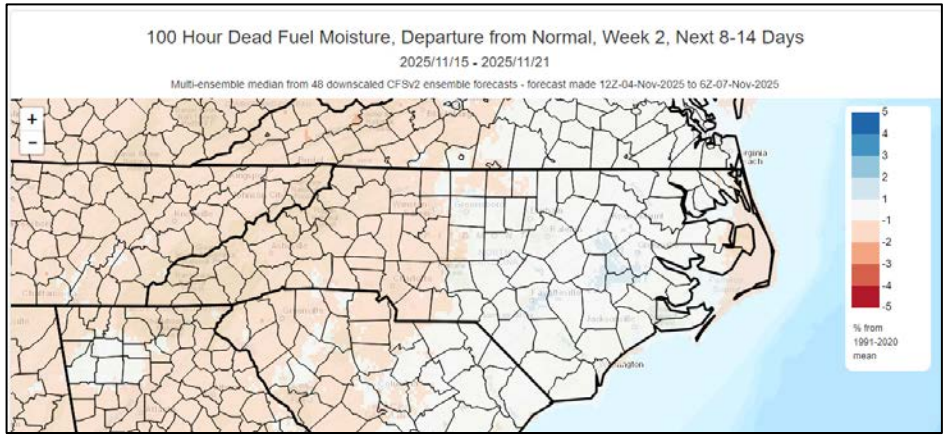


Week-3



This output can provide insight into general drying trends and potential impacts to overall fire danger, especially prior to full green-up or in drought conditions. Outputs relate to interactions of warmer/colder temps, moist/dry air masses, precip amt/duration, wind and overnight RH recovery trends.

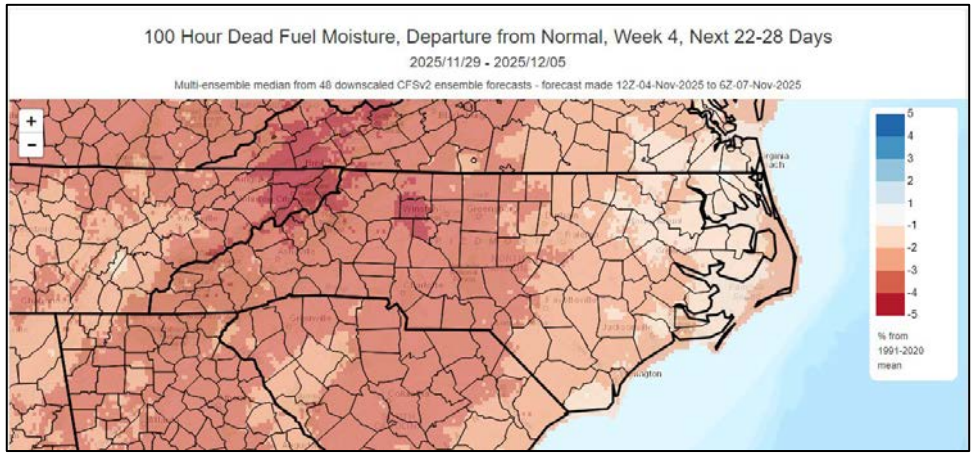
Week-2



Note that <u>modeled</u> impacts of warmer/drier conditions (lower % mc or "worse") is focused most intensely on Weeks 3-4 in the Mtns/West Piedmont.

Important to note that there is significant forecast uncertainty as you go further out in time, especially relating to any potential storm tracks.

Week-4



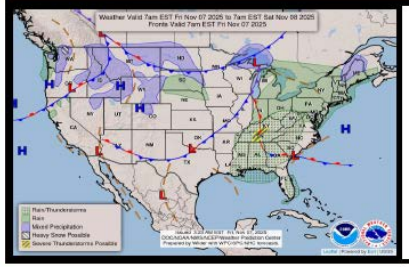
From: https://climatetoolbox.org/tool/Climate-Mapper

SACC Daily Outlook, Selected Snips from Friday – 11/7

https://gacc.nifc.gov/sacc/resources/predictive/sacc-daily-outlook.pdf

SACC Daily Outlook

Friday, November 7, 2025

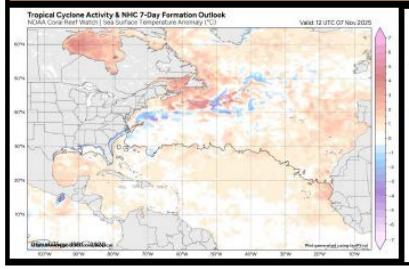


- A low-pressure system over the Great Lakes is forecast to bring a warm front north over the Appalachians and Atlantic coastal states and a cold front across the Mississippi River Valley and into East/South TX.
- This will bring a potential for showers and storms to the Southern Area, east of the Mississippi River.
- Along the warm front and just ahead of the cold front, temperatures and dew points are forecast to increase.
  - This should bring the minimum RH back up to above 50% to most of the area east of the cold front.
  - The Appalachians, South GA, and interior FL may still see some RH values below 45% due to some lower dewpoints in the valleys of the mountains and high temperatures in the 80s in GA and interior FL.
- Wind gusts of 30 mph and 40 mph out of the south, will be possible in TN, KY and the Mts of VA later today.
- West of the Mississippi River, RH values will decrease from 60% in AR and LA, down to the 30s in eastern OK and East TX, down to the teensin the OK/TX Panhandles and West TX.
- Gusty wind may also occur in western OK, and TX, where gusts of up to 35 mph.

Watches, Warnings and Advisories as of 8 am EST This Morning

- There are no Watches/Warnings/ or Advisories after 9am EST today.

NHC 7 Day Graphical Tropical Weather Outlook and Sea Surface Temperature Anomalies



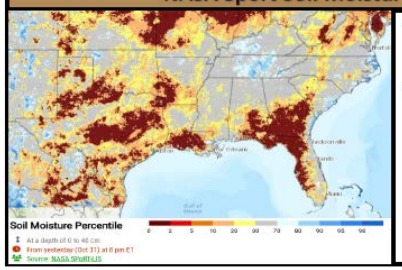
- There are no areas with any potential of development over the next 7 days.
- The western Caribbean and the Gulf waters continue to show above normal sea surface temperatures.
  - This could allow for a system to quickly develop along any cold fronts that make it that far south and stall for longer than a day or two.

Please contact your local National Weather Service office for spot forecasts and the latest watches and warnings.

SACC Daily Outlook

Friday, November 7, 2025

NASA Sport Soil Moisture Percentile 0 to 40 cm

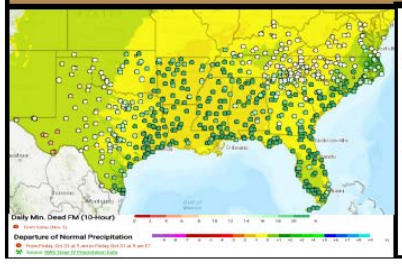


- Soil moisture has been trending downward over the last week, with very dry conditions over a large portion of the Southern Area.
- When looking down to 40 cm, or almost 16 inches, drier conditions continue to prevail across a large portion of the Southern Area.
  - The driest areas are found over most of TX, SW OK, SW AR, LA, GA, southern AL, North FL, and the west coast of FL, where the moisture percentiles are near 0%.
  - Other than some very isolated areas of higher soil moisture, only TN and eastern KY have a more widespread area of moist soil.

Observed/Forecast ERC Y's

- Most of the ERC-Y's are reporting in below the 60th percentile across the Southern Area.
- Any ERC-Y's above the 60th percentile are in Texas, western OK, the NC/SC/GA/VA mountains.
  - Most of these ERCs are between to 60th and 80th percentiles.
  - The highest ERC-Y reported in the VA west mts, reporting in the 91st percentile.
- The model forecast show an upward trend or stagnant ERC-Ys from MS/East TN, and areas west.
- For the areas east, there is a downward or stagnant trend.

10 Hour Dead Fuel Moisture with 7 Day Departure of Normal Rain (Shaded)



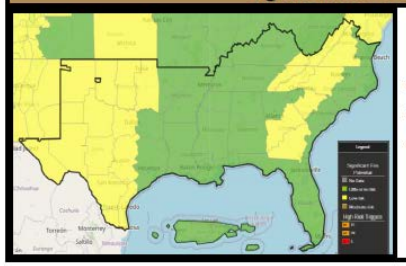
- The 10-hr Fuel moistures are reporting in at 15% or higher across much of the Southern Area.
  - TX (excluding East TX), western OK, and the Appalachians are the exceptions, with fuel moistures does to 9% in the Appalachians and 6% in West TX.
- The 7-day rainfall amounts have been below normal for nearly the entire area.
  - Coastal NC and VA are the exceptions, with up to an inch above normal precipitation.

Please contact your local National Weather Service office for spot forecasts and the latest watches and warnings.

SACC Daily Outlook

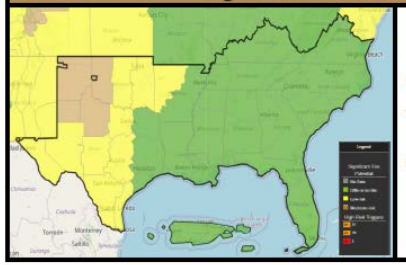
Friday, November 7, 2025

Significant Potential for Today



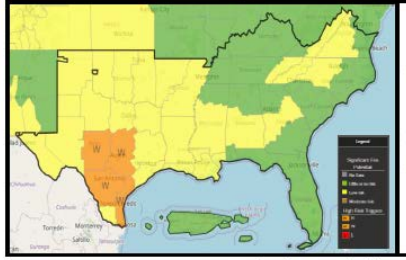
- **High Risk:** None.
- **Moderate Risk:** None.
- **Low Risk:** TX (except for East TX), OK, Central/South GA, Central SC, TN Mts, NC Mts, Central NC, and VA (except the coast) for low RH and dry fuels.

Significant Fire Potential for Tomorrow



- **High Risk:** None.
- **Moderate Risk:** TX/OK Panhandles, West OK, NW TX for low RH and very dry fuels.
- **Low Risk:** TX (except East TX), Central and East OK, and West AR for low RH and dry fuels.

Significant Fire Potential for Sunday

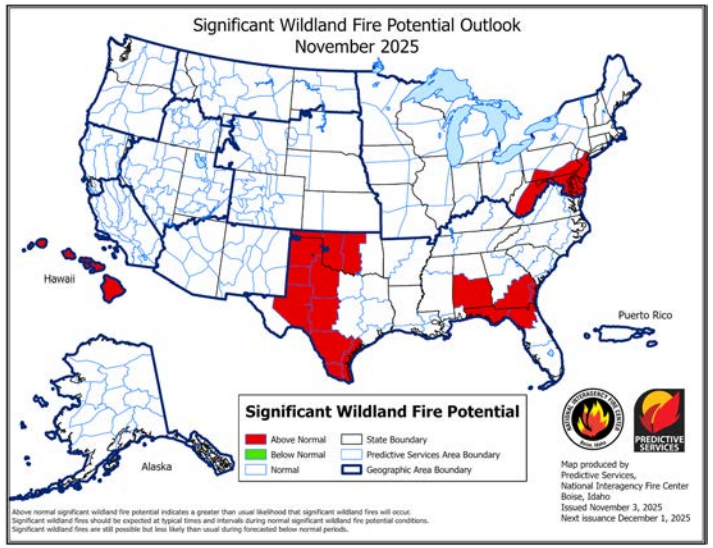


- **High Risk:** Central TX, the Rio Grande Plain north, and the south coast of TX for low RH, very dry fuels, and breezy conditions.
- **Moderate Risk:** None.
- **Low Risk:** TX (outside the high potential), OK, LA, AR, south/coastal MS, South AL, VA west mountains, Central VA, NC/TN mountains, Central NC, and Central GA for low RH and dry fuels.

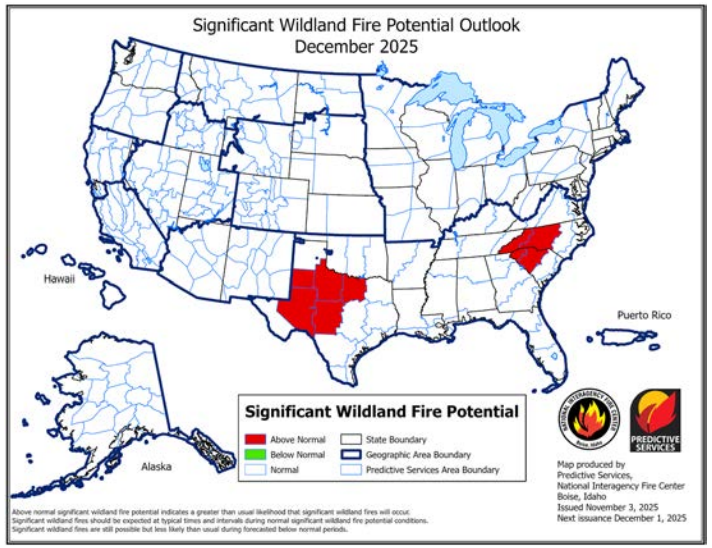
National 7-Day Significant Fire Potential Outlook

Significant Wildland Fire Potential Outlook: *Updated 11/3/25*

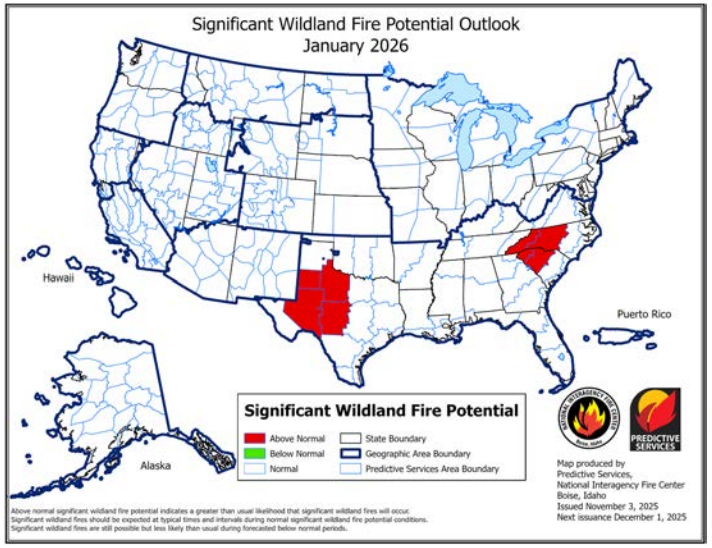
November



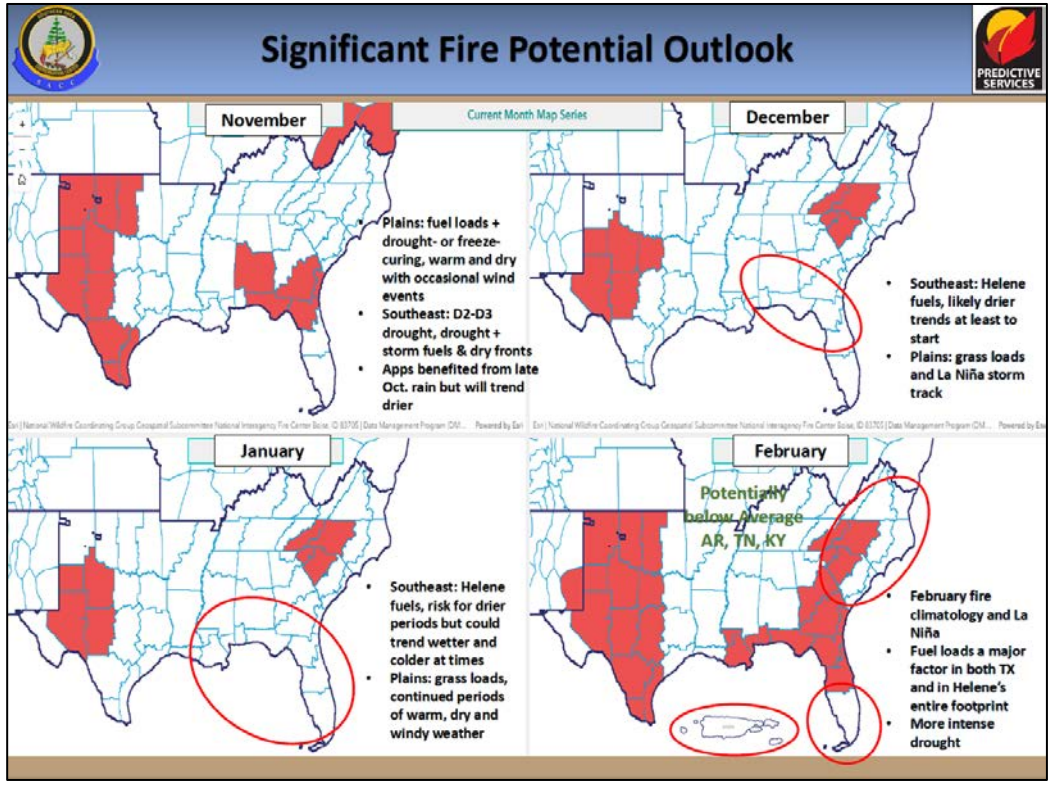
December



January



February

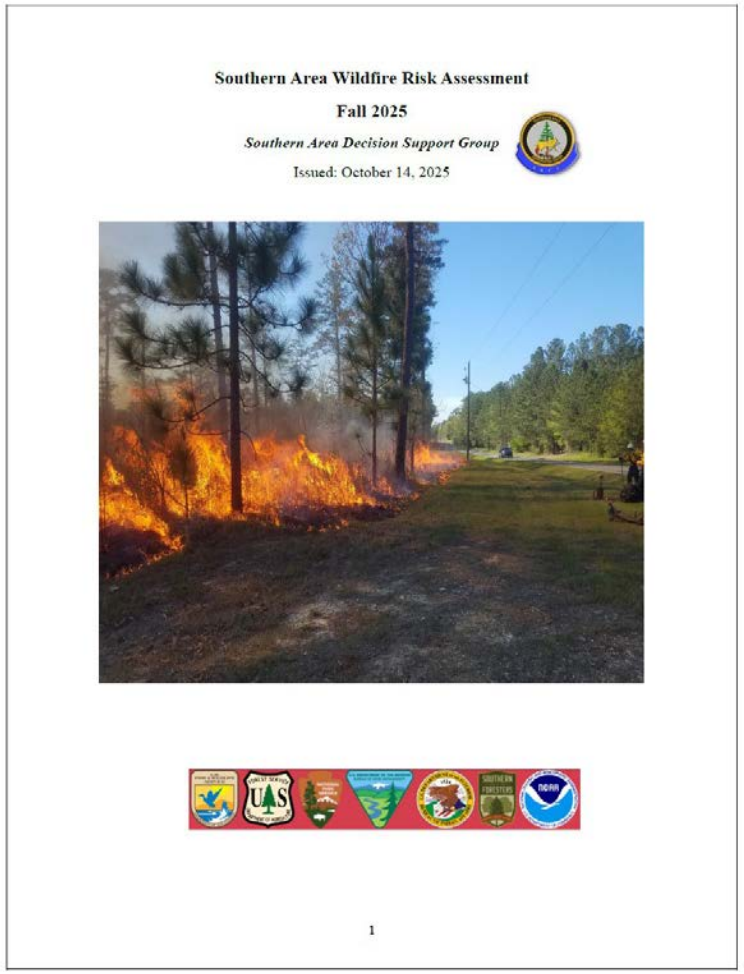


From SA Monthly Outlook Briefing on 11/7/25

**A significant fire is one that requires resources from outside the district (other than aviation). IA potential is based more on shorter term weather factors. Just a few days of dry weather can increase IA activity considerably as we have consistently seen from year to year.*

https://www.nifc.gov/nicc-files/predictive/outlooks/monthly_seasonal_outlook.pdf

Southern Area – Fall 2025 Wildfire Risk Assessment



Southern Area Wildfire Risk Assessment

Fall 2025

Southern Area Decision Support Group

Issued: October 14, 2025

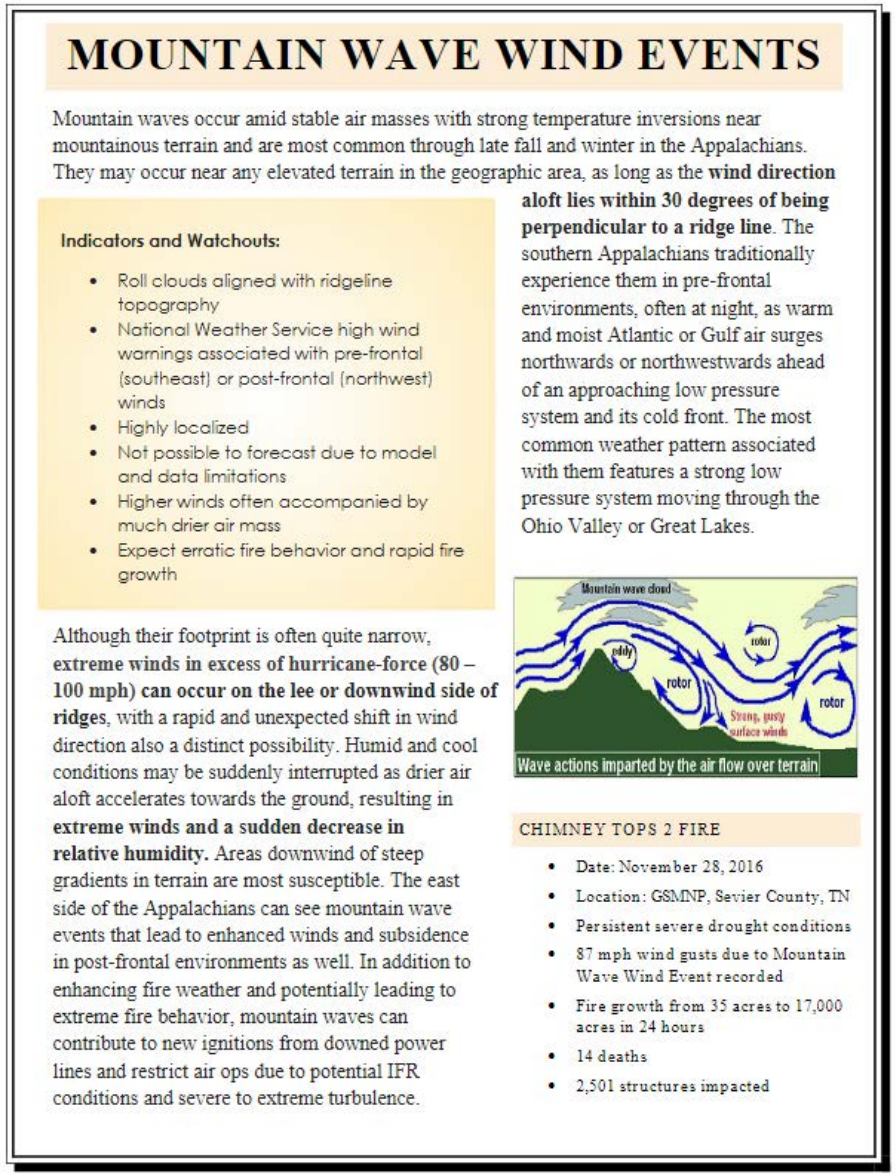
1

Please review the newly released SA Wildfire Risk Assessment for Fall 2025 – it discusses overall regional concerns as well as fire effective weather patterns.

Take special note of "Appendix A – Critical Fire Weather and Environmental Conditions" starting on page 58.

https://gacc.nifc.gov/sacc/resources/predictive/SAFallRiskAssessment_2025_final.pdf

Southern Area – Mountain Wave Wind Event Note



MOUNTAIN WAVE WIND EVENTS

Mountain waves occur amid stable air masses with strong temperature inversions near mountainous terrain and are most common through late fall and winter in the Appalachians. They may occur near any elevated terrain in the geographic area, as long as the **wind direction aloft lies within 30 degrees of being perpendicular to a ridge line**. The southern Appalachians traditionally experience them in pre-frontal environments, often at night, as warm and moist Atlantic or Gulf air surges northwards or northwestwards ahead of an approaching low pressure system and its cold front. The most common weather pattern associated with them features a strong low pressure system moving through the Ohio Valley or Great Lakes.

Indicators and Watchouts:

- Roll clouds aligned with ridgeline topography
- National Weather Service high wind warnings associated with pre-frontal (southeast) or post-frontal (northwest) winds
- Highly localized
- Not possible to forecast due to model and data limitations
- Higher winds often accompanied by much drier air mass
- Expect erratic fire behavior and rapid fire growth

Although their footprint is often quite narrow, **extreme winds in excess of hurricane-force (80 – 100 mph) can occur on the lee or downwind side of ridges**, with a rapid and unexpected shift in wind direction also a distinct possibility. Humid and cool conditions may be suddenly interrupted as drier air aloft accelerates towards the ground, resulting in **extreme winds and a sudden decrease in relative humidity.** Areas downwind of steep gradients in terrain are most susceptible. The east side of the Appalachians can see mountain wave events that lead to enhanced winds and subsidence in post-frontal environments as well. In addition to enhancing fire weather and potentially leading to extreme fire behavior, mountain waves can contribute to new ignitions from downed power lines and restrict air ops due to potential IFR conditions and severe to extreme turbulence.

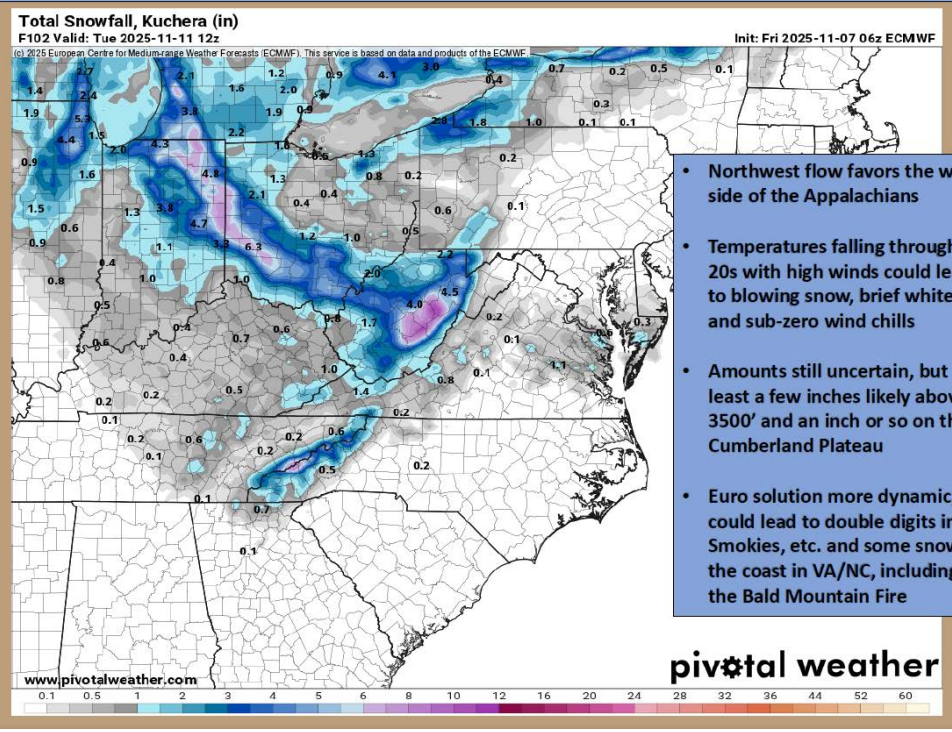
Wave actions imparted by the air flow over terrain

CHIMNEY TOPS 2 FIRE

- Date: November 28, 2016
- Location: GSMNP, Sevier County, TN
- Persistent severe drought conditions
- 87 mph wind gusts due to Mountain Wave Wind Event recorded
- Fire growth from 35 acres to 17,000 acres in 24 hours
- 14 deaths
- 2,501 structures impacted

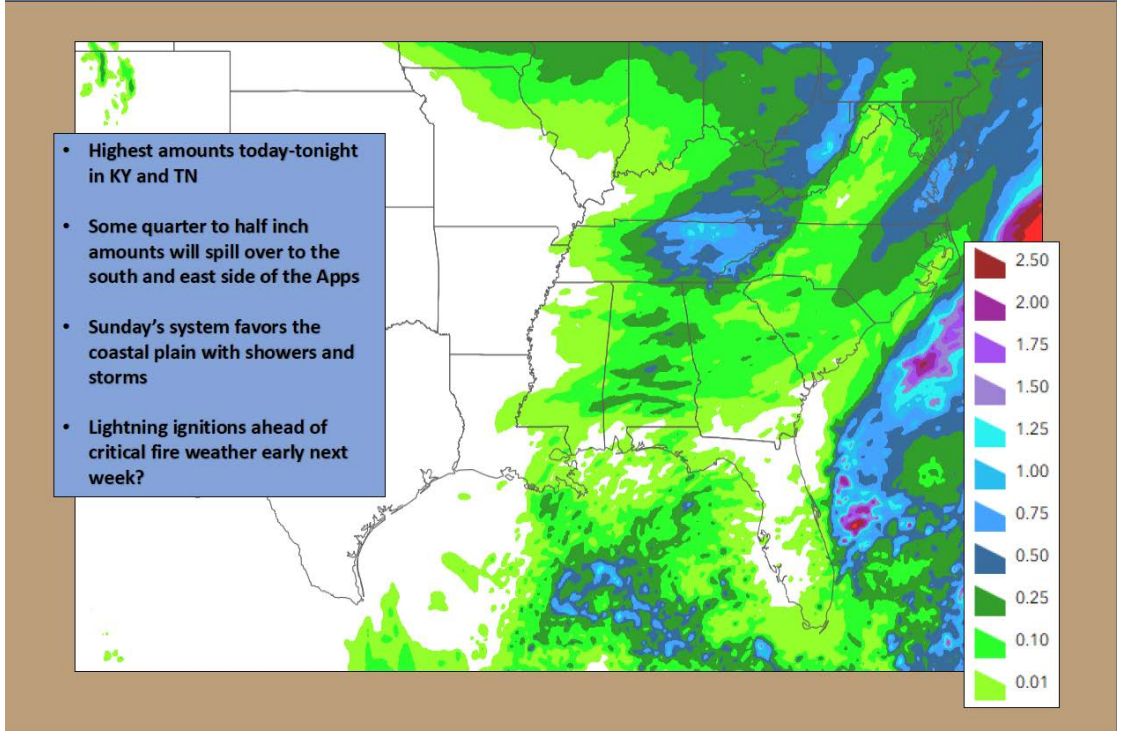
https://gacc.nifc.gov/sacc/predictive/outlooks/MountainWavesFactSheet.pdf

Snow Monday and Monday Night



- Northwest flow favors the west side of the Appalachians
- Temperatures falling through the 20s with high winds could lead to blowing snow, brief whiteouts and sub-zero wind chills
- Amounts still uncertain, but at least a few inches likely above 3500' and an inch or so on the Cumberland Plateau
- Euro solution more dynamic, could lead to double digits in the Smokies, etc. and some snow to the coast in VA/NC, including on the Bald Mountain Fire

Precipitation the Next Week



- Highest amounts today-tonight in KY and TN
- Some quarter to half inch amounts will spill over to the south and east side of the Apps
- Sunday's system favors the coastal plain with showers and storms
- Lightning ignitions ahead of critical fire weather early next week?

From SA Monthly Outlook Briefing on 11/7/25

Forecasted Adjective Rating for FDRAs in North Carolina							
FDRA	Fri Nov 7	Sat Nov 8	Sun Nov 9	Mon Nov 10	Tue Nov 11	Wed Nov 12	Thu Nov 13
Southern Highlands	M	L	L	L	M	M	M
Central Mountains	M	M	M	M	M	M	M
Northern Highlands	M	M	M	M	M	M	L
Blue Ridge	M	M	M	M	M	M	M
Western Piedmont	M	M	L	L	M	M	M
Sandhills	M	M	L	M	M	M	M
Eastern Piedmont	M	M	L	L	M	M	M
Southern Coast	M	M	L	M	M	M	M
Northern Coast	M	M	L	L	M	M	M

Modeled cold snap coming Monday + related winds will hasten dormancy & likely accelerate leaf drop in Mtns/Piedmont. The initial cold air mass coming will be very dry, but cold max temps should "dampen" overall fire danger potential, at least initially.

If dry air stays in place as conditions warm later in the period – 10's and 100's will likely be much more receptive (as encountered this Spring) & align with the new fine fuel accumulations.

Even with lower KBDI values & higher duff/soil moisture – surface fire will be of concern with freshly fallen & fluffy hardwood litter + interaction with Helene footprint issues.

It has been noted on recent R3/Mtn fires that duff and heavier down/dead fuels were not contributing to fire behavior, fire being surface fuel (leaf litter) driven. Aerial snags were also noted to be consuming in drier areas.

Potential snow mentioned earlier could be an aid to both moisture recharge and leaf compaction but likely limited to high elevation mountain locations/western slopes. Otherwise, drying trend is favored.

Warming and drying trend more pronounced **later** in November for NC. Recent drought improvement in shorter-term but deeper dryness remains, a significant concern for Spring 2026.

Forecasts are subject to significant change over time, which directly impacts daily NFDRS outputs. Interim Adjective Rating values are utilizing FM-Z ERC binned into five categories.

FM-Z contains roughly an even split between 1's, 10's, 100's and 1000-hr dead fuels, so picks up on both short/longer-term drying trends.

The FDRA SIG Averages are applied to generate Percentiles and Color Coding For "All-Days" using new period of record (2010-2024) for SIG stations. Values are based on FEMS processor outputs.

Fcst. Daily Min. DFM (10-Hr) Pctl. for FDRAs in North Carolina							
FDRA	Fri Nov 7	Sat Nov 8	Sun Nov 9	Mon Nov 10	Tue Nov 11	Wed Nov 12	Thu Nov 13
Southern Highlands	57.7%	86.8%	84.2%	71.9%	57.7%	57.7%	46.6%
Central Mountains	46.5%	84.4%	76.5%	65.1%	46.5%	46.5%	56.4%
Northern Highlands	37.5%	88.1%	77.9%	62.4%	47.8%	62.4%	73.4%
Blue Ridge	43.4%	71.5%	71.5%	55.4%	28.8%	43.4%	28.8%
Western Piedmont	45.0%	75.0%	83.5%	68.2%	30.1%	14.4%	14.4%
Sandhills	59.1%	75.3%	87.1%	75.3%	47.5%	18.4%	18.4%
Eastern Piedmont	42.5%	74.4%	92.7%	80.1%	42.5%	13.4%	13.4%
Southern Coast	66.6%	73.7%	73.7%	73.7%	30.9%	17.7%	17.7%
Northern Coast	56.8%	73.8%	87.2%	83.8%	30.8%	17.7%	17.7%

Fcst. Daily Min. DFM (100-Hr) Pctl. for FDRAs in North Carolina							
FDRA	Fri Nov 7	Sat Nov 8	Sun Nov 9	Mon Nov 10	Tue Nov 11	Wed Nov 12	Thu Nov 13
Southern Highlands	50.9%	50.9%	81.8%	87.6%	81.8%	73.5%	63.7%
Central Mountains	21.2%	21.2%	65.1%	75.0%	75.0%	65.1%	52.6%
Northern Highlands	29.9%	29.9%	57.3%	77.8%	68.8%	68.8%	57.3%
Blue Ridge	17.4%	31.9%	61.5%	61.5%	61.5%	48.1%	31.9%
Western Piedmont	49.2%	49.2%	62.6%	87.8%	81.0%	62.6%	49.2%
Sandhills	47.8%	60.3%	60.3%	79.6%	70.9%	47.8%	33.2%
Eastern Piedmont	44.5%	44.5%	72.5%	98.8%	95.9%	81.7%	59.5%
Southern Coast	62.8%	62.8%	73.9%	73.9%	62.8%	35.1%	20.6%
Northern Coast	51.3%	64.4%	64.4%	83.2%	83.2%	64.4%	37.2%

Fcst. Daily Min. DFM (1000-Hr) Pctl. for FDRAs in North Carolina							
FDRA	Fri Nov 7	Sat Nov 8	Sun Nov 9	Mon Nov 10	Tue Nov 11	Wed Nov 12	Thu Nov 13
Southern Highlands	82.0%	82.0%	82.0%	82.0%	82.0%	82.0%	82.0%
Central Mountains	57.0%	57.0%	57.0%	57.0%	57.0%	57.0%	57.0%
Northern Highlands	48.5%	48.5%	48.5%	48.5%	48.5%	48.5%	48.5%
Blue Ridge	51.2%	51.2%	51.2%	51.2%	51.2%	51.2%	51.2%
Western Piedmont	65.2%	65.2%	65.2%	65.2%	65.2%	65.2%	65.2%
Sandhills	78.3%	78.3%	78.3%	78.3%	78.3%	65.8%	65.8%
Eastern Piedmont	82.0%	82.0%	82.0%	82.0%	91.8%	91.8%	91.8%
Southern Coast	91.4%	80.5%	80.5%	80.5%	67.5%	67.5%	52.0%
Northern Coast	92.7%	83.4%	83.4%	83.4%	83.4%	69.6%	69.6%